Shaping the Future.
Together.

Appendix

Thesis report - December 2017
Leroy Huikeshoven

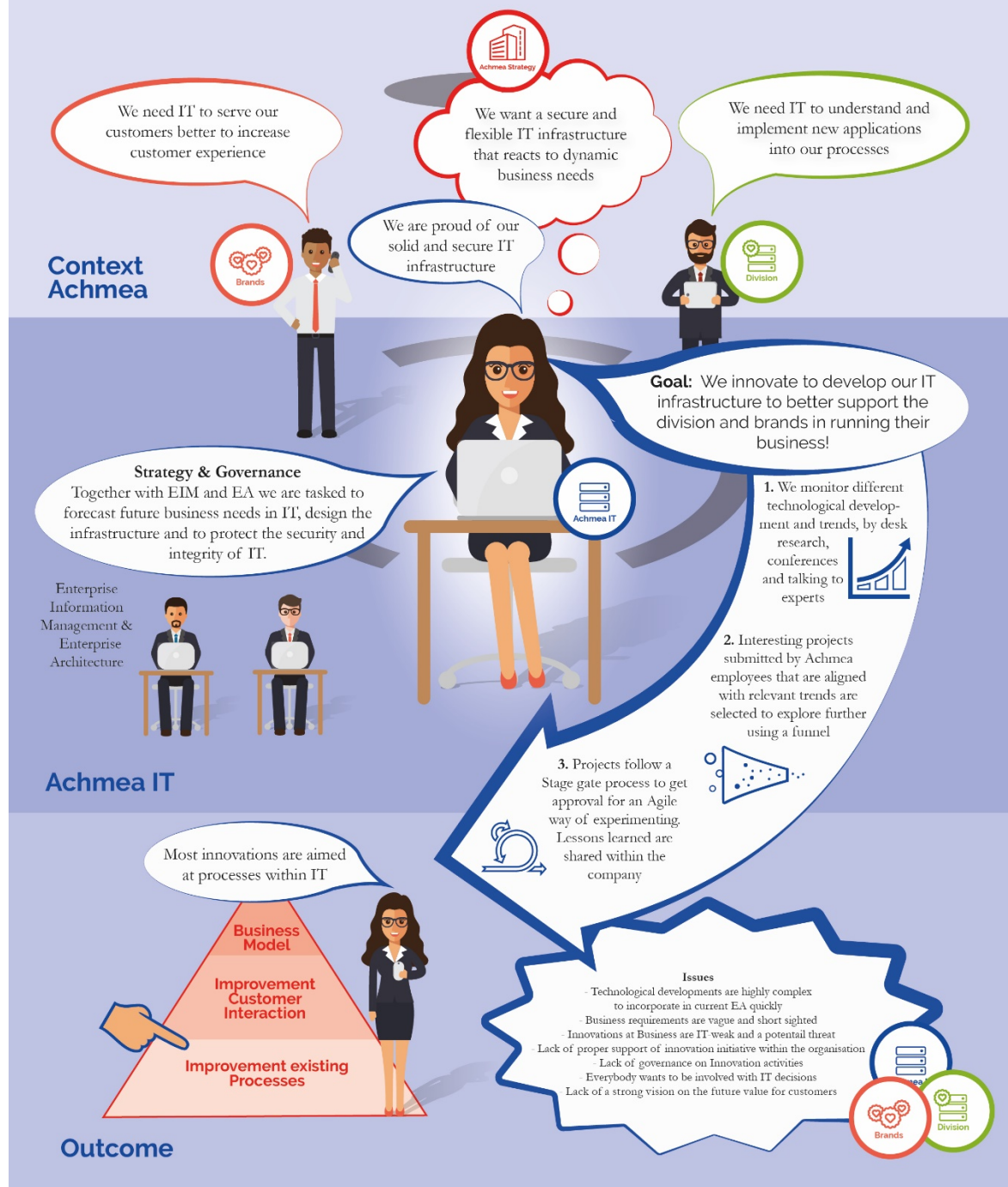achmea ◉   TUDelft

Index

Appendix A: Personas and issue map

Division (supply chain) Innovation teams

A team of innovation managers whom are responsible for innovation within the Division of Achmea. The divisions matches with different segments of the insurance market and they coordinate shared processes for different brands. They innovate for the market with the use of innovation themes.

Achmea Strategy

The division are our main client, as IT department we help them with process for the brands

We want to be the most innovative insurance company in our market segment

We need the division to support our processes to reduce costs to create customer value

We are proud of our efficient organisation

Context Achmea

Achmea IT

Brands

Division Transition Broad

Innovation
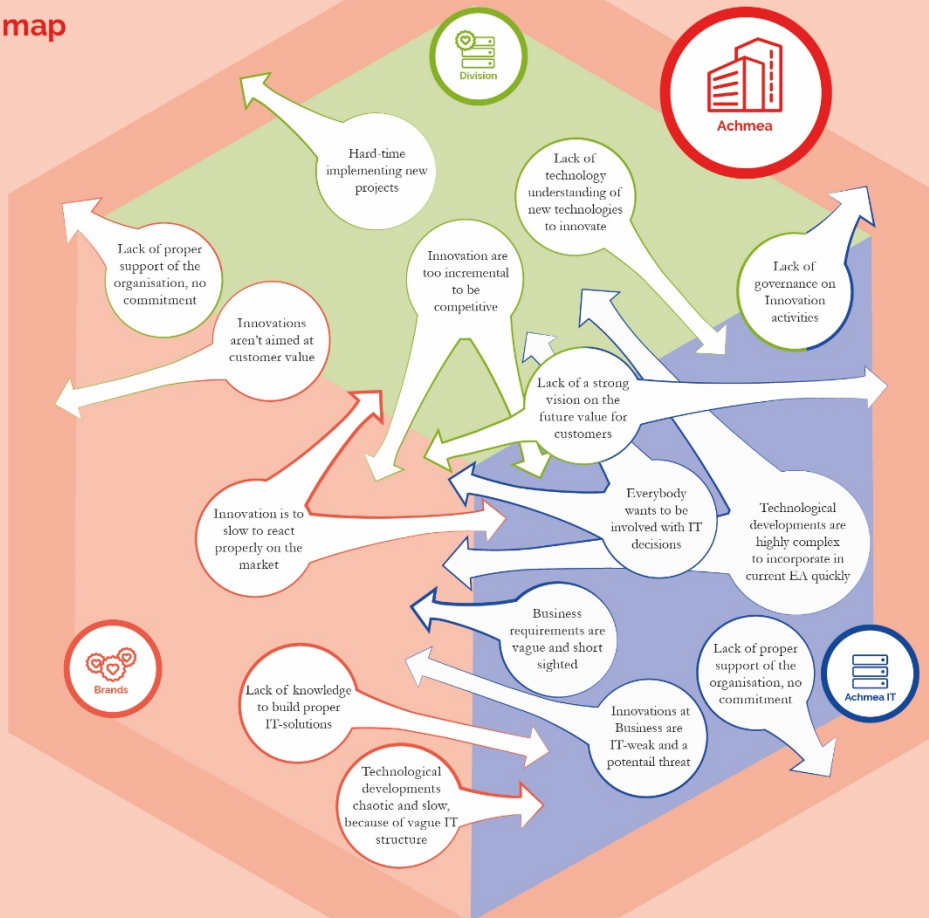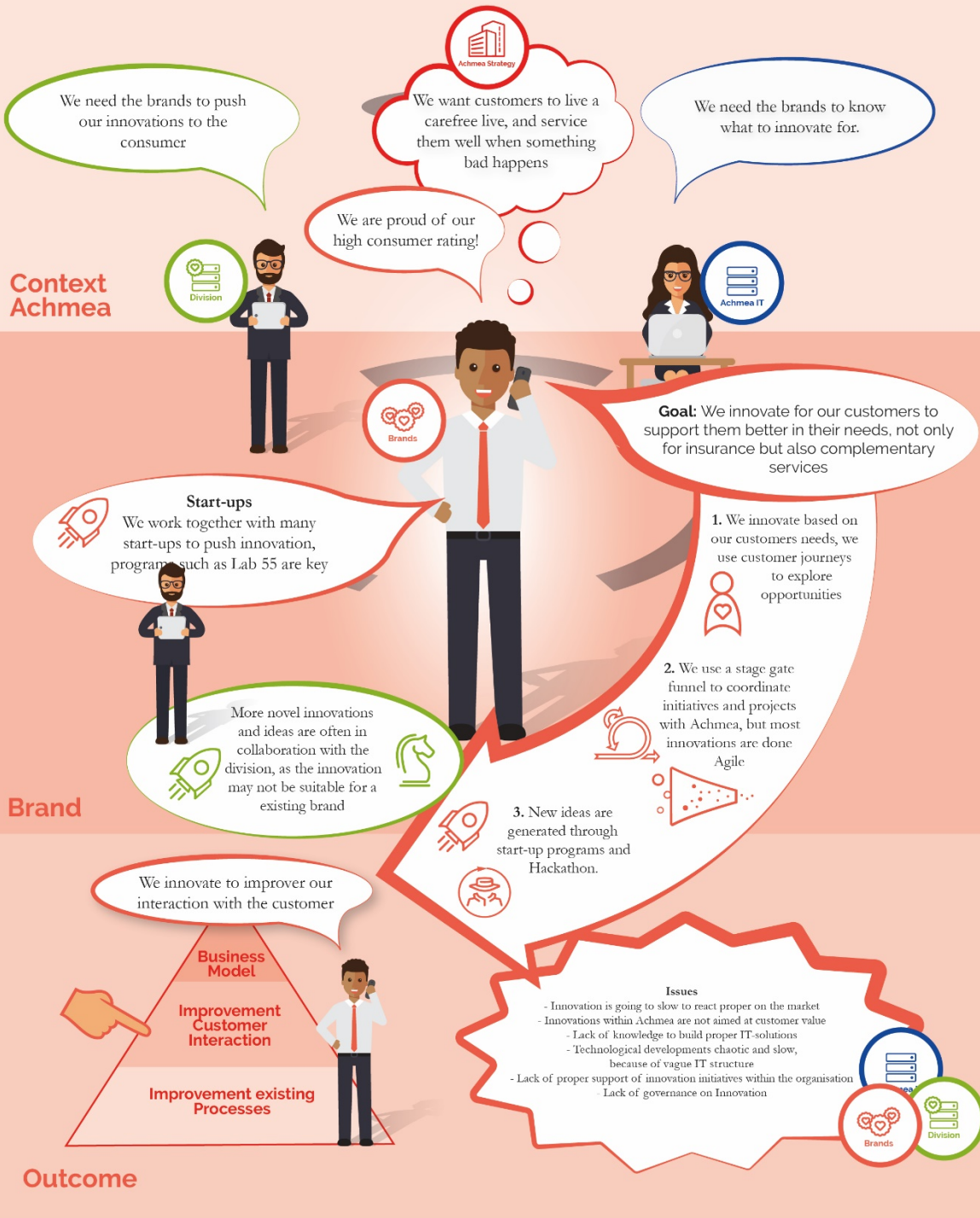We work together with the Division Transition broad (KTB) to build a stronger and more efficient division

Goal: We innovate for an insurance industry to develop new or improved services to be used by brands or to start new brands

Division

1. We innovate on strategy themes defined by Achmea, therefore we scout opportunities and monitor trends

2. We use a stage gate funnel to coordinate initiatives and projects. Projects are submitted by employees and/or started by the team

Projects are often in collaboration with a brand through hackathons and challenges

Division

3. Projects are done via lean start-up method if possible, but mostly projects are waterfall or somewhat Agile

We try to do develop new things and improve our backbone

Business Model

Improvement Customer Interaction

Improvement existing Processes

Issues
- Innovation are too incremental to be competitive
- Innovations within Achmea are not aimed at customer value
- Hard time implementing new projects
- Lack of technology understanding of new technologies to innovate
- Lack of proper support of innovation initiatives within the organisation
- Lack of governance on Innovation activities
- Lack of a strong vision on the future value for customers

Brands

Division

Outcome

3

Dreams

achmea ◙

Delivering Together
With leading solutions everyday, we
to be relevant to our customers. But
we will do it together. We continue to
do what we have always have done.
At the same time we want and can be
more for our customers
-

Brands

We want customers to live a
carefree live, and service
them well when something
bad happens

Division

We want to be the most
innovative insurance company
in our market segment

Achmea IT

We want a secure and
flexible IT infrastructure
that reacts to dynamic
business needs

Nightmares
Issue map

Division

Achmea

Hard-time
implementing new
projects

Lack of
technology
understanding of
new technologies
to innovate

Lack of proper
support of the
organisation, no
commitment

Innovation are
too incremental
to be
competitive

Lack of
governance on
Innovation
activities

Innovations
aren't aimed at
customer value

Lack of a strong
vision on the
future value for
customers

Innovation is to
slow to react
properly on the
market

Everybody
wants to be
involved with IT
decisions

Technological
developments are
highly complex
to incorporate in
current EA quickly

Brands

Lack of knowledge
to build proper
IT-solutions

Business
requirements are
vague and short
sighted

Lack of proper
support of the
organisation, no
commitment

Achmea IT

Technological
developments
chaotic and slow,
because of vague IT
structure

Innovations at
Business are
IT-weak and a
potentail threat

4

New Business developers

New business developers are managers working for brands to innovate for the customers, developing new services and improving existing ones. They work with others to realize this.

We need the brands to push our innovations to the consumer

We want customers to live a carefree live, and service them well when something bad happens

We need the brands to know what to innovate for.

We are proud of our high consumer rating!

Context Achmea

Goal: We innovate for our customers to support them better in their needs, not only for insurance but also complementary services

1. We innovate based on our customers needs, we use customer journeys to explore opportunities

Start-ups
We work together with many start-ups to push innovation, programs such as Lab 55 are key

2. We use a stage gate funnel to coordinate initiatives and projects with Achmea, but most innovations are done Agile

More novel innovations and ideas are often in collaboration with the division, as the innovation may not be suitable for a existing brand

3. New ideas are generated through start-up programs and Hackathon.

Brand

We innovate to improver our interaction with the customer

Business Model

Improvement Customer Interaction

Improvement existing Processes

Issues
- Innovation is going to slow to react proper on the market
- Innovations within Achmea are not aimed at customer value
- Lack of knowledge to build proper IT-solutions
- Technological developments chaotic and slow, because of vague IT structure
- Lack of proper support of innovation initiatives within the organisation
- Lack of governance on Innovation

Outcome

Appendix B: Literature study

1.1.   Research question and approach

Intro: Can Agile deal with Digital innovation?

How can Achmea IT act pro-actively in enabling Achmea brands to innovate with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security?

To address this research question, I have broken it down into three main topics:

- What is the role of an IT department within a company?
- What is the impact of Information and communication systems on innovation?
- How does current business cope with the effects of information and communication technologies?

In order to have some boundary to the literature study, the search for relevant papers will be focusing on these topics.

How can Achmea IT act pro-actively in   enabling Achmea brands to innovate with new
IT oppotunies in an agile way , without compromising Achmea IT's intergrity and security?

Information and communication
systems

Agile   Innovation

People
(networks)

Digital Technology   Customer centricity
(Digitalizering)   (Services)
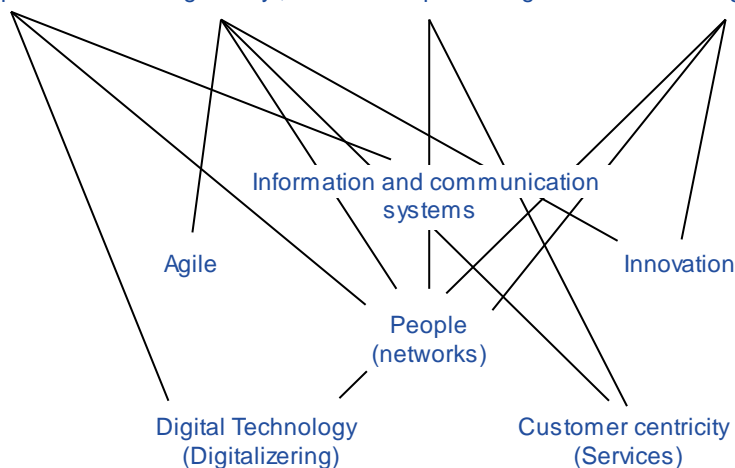
1.2.   Innovation, what is it?

In this age, companies are driven to innovate more intensively. This is due to high competition within the market, caused from a variety of factors such as: empowered customers, emerging technologies, rapid product development, deregulation, uncertain economic circumstances and globalisation of the economy. This applies even stronger for software companies, because their products are heavy knowledge and technology driven. The activity of innovation in this context is considered a proven manner to improve the economic output and productivity of a company (Edison, Bin Ali, & Torkar, 2013).

As the attention towards innovation is becoming more and more relevant for companies, so does the same apply for the employees working within that company it is. Organisations rely on their employees to come up with ideas and suggestions on how to and what to innovate. The process of idea generation and implementation has become a valuable capability to increase competitive advantage (N Anderson, Potočnik, & Zhou, 2014).

The process of innovation, however, is a vague and not well defined concept. The exact meaning of the term innovation itself is still scattered in the academic field. Different scholars in the last decade have

made an effort in consolidating a clear understanding of the noun 'innovation'. Crossan & Apaydin have taken an organisation perspective on this matter and defined innovation as: *the production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome (2010, p2).* Anderson et al. defined innovation as *"the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things"* (2014, p2). Both definitions of innovation are based on an extensive systemic literature review and they both agree that the outcome of innovation is a novelty in a variety of constructs, such as processes and products.

But how the process of innovation is followed and which stages can be identified, is still an ongoing debate. Agreement exists that the process is in general a linear path, following different stages resulting in a finalized and implemented novel object. In general two distinct stages can be identified; Stage 1, *creativity,* is the act of generating ideas with whatever means deemed appropriate, such as ideation or trend analysis, and stage 2) *innovation*, *innovation,* is subsequently the act of implementing ideas toward better procedures, practices, or products (Anderson et al., 2014).

The *creativity* and *innovation* stages both reflect respectively the *initiation* and *implementation* phase proposed by Damanpour & Schneider (2006). However, Damanpour and Schneider emphasis the transition of one phase to another. Whereas in the *initiation* phase the organisation becomes aware of a potential innovation, an additional phase to transition to the implementation phase is needed to reflect and asses of the proposed innovation is deemed suitable for assimilation and implementation in the organisation. This *adoption* phase is often crucial in innovation processes as approval of high management to allocated resources is needed to proceed with innovation initiatives. A clear distinguish between *creativity stage* and *innovation stage* might prove to be useful in discussion about innovation processes. Therefore, the *adoption* phase is reintroduced into the model.

Furthermore, by including the adoption stage the process also starts to reflect the Double Diamond design process proposed by the British Design Council (Design Council, 2005), where the first Diamond of discover and defining reflects the initiation phase and the second Diamond of designing and delivering the implementation phase. The transition between diamond clarify a specific problem that the value to work out. Such as well define clear problem and goal is often what is required in the adoption phase to transition from initiation to implementation as well.

Innovation process

Initiation   **Adoption**   **Implementation**

Trendwatching, User research, Technology development, prototyping, desk research, Business analyse

Prototyping, Lean start-up, UX Design, Manufacturing

Double diamond Design model

Discover
insight into the problem

Define
the area to focus upon

Develop
potential solutions

Deliver
solutions that work

Problem

Problem Definition

Solution

Design brief
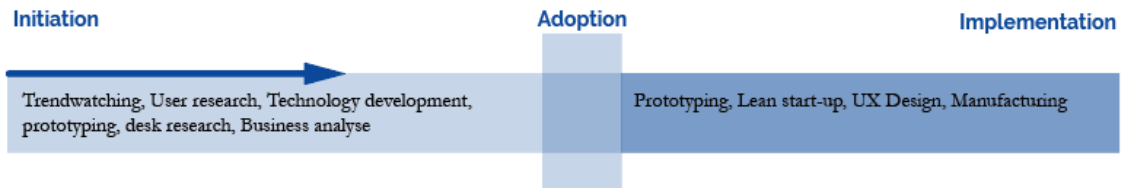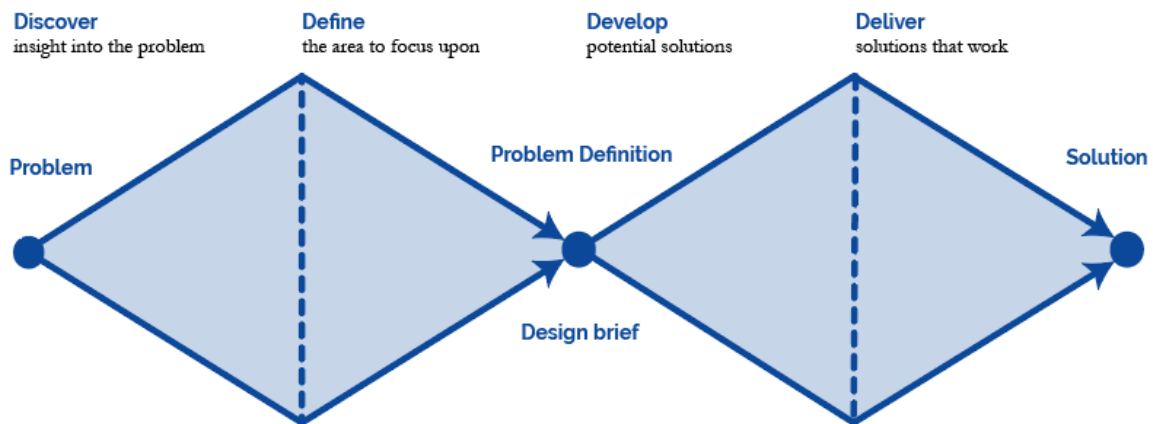
Neil Anderson, De Dreu, & Nijstad (2004) states that the *creativity* stage is associated with a higher degree of novelty in the outcome of the process. This is so called 'true' novelty is often only obtained by applying the *creativity* and the *innovation* stage in the process. Skipping the *creativity* stage and just applying the *innovation* stage may result in ideas that are typically consider medium novel, which are mostly adopted and adapted from external sources.

Although Anderson et al. (2014) and Crossan & Apaydin (2010) list a wide variety of categories to classify innovation, most literature does focus on 'true' novelty. 'True' novelty is often revered to as radical innovation opposed to incremental innovation. Radical innovation is often disruptive, destroying competence and enacting discontinuity with the past due to technology or product meaning breakthroughs (Norman & Verganti, 2012). Norman & Verganti (2012) do summary the difference between the two caterogies of innovation as the following:

1. Incremental innovation: Improvements within a given frame of solutions ("doing better what we already do");
2. Radical innovation: A change of frame ("doing what we did not do before")
   (Norman & Verganti, 2012, p5).

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In earlier work of Verganti (2008), he states that radical innovation embodies a new meaning. Preserving the created novelty as object that communicates through its design as a language, Verganti argues that radical innovation expresses a new meaning to the customer often enable by new technologies.

For example: Nintendo used a new technology, MEMS accelerators, to enable user of its new gaming console, The Wii, to control the game by movement. This also created opportunities for complementary party games to be created. Hereby the new console changed in meaning for the customer. Previously consoles were meant to draw people into a digital world to entertain, but these new controllers (Wii remote) enable an entertainment from were exercise and social interaction was possible (Roberto Verganti, 2017).

Novelty of innovation

Thus, Nintendo did not adapt to the sociocultural model that consoles are meant to submerges gamers in a digital world, but instead created a new sociocultural model enabled by this new technology. The Wii could be seen as both a technology and market breakthrough. Although Sony had already the Playstation Eye to enable gamers to play party games controlled with the body, Nintendo technology was far superior and Playstation Eye was only a feature of the Playstation 2. After the Wii launched, Sony followed with the Playstation Move for the Playstation 3 a few years later using the same technology.
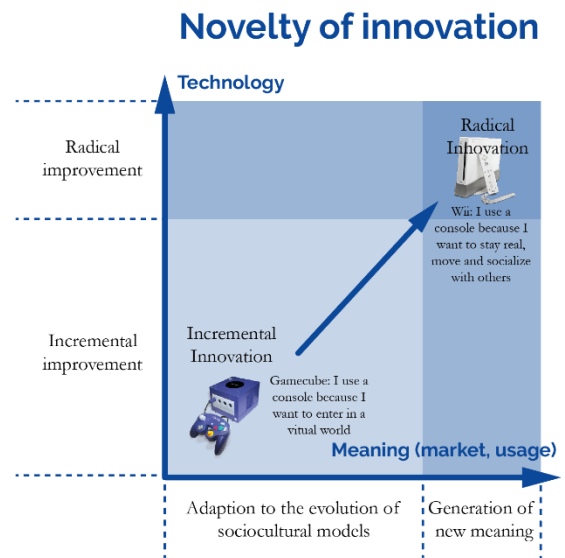
Innovation and Digitalisation

A consensus on what the process of innovation exactly entails may never manifest. Innovation is a dynamic. complex process and is inherently context dependent, because it is applied within companies in order to act upon the changing context of the company. Companies applying innovation with the aim to create novelty in products and/or processes do so in ideally three stages; initiation, adoption and implementation. To obtain a high degree of novelty, radical innovation, both new technology developments must be well understood and new sociocultural models need to be developed by the innovators.

1.2.1. Digital technology

In this decade, digitalization as a result of emerging technologies in information and communication field is recognized as a disruptive and powerful influence on the context of companies. New technologies enable companies to craft new meanings for products. Disruptive and radical innovation are prone to happen more and more as result of digitalisation. It is therefore crucial for these technologies to be understood by companies and how they affect innovation.

A better understanding of digitalization, and the digital technologies accompanying it, in specific is paramount for innovation in this age. These digital technologies are a rebrand from existing emerging Information and communication technologies. Four different information and communication technologies i.e. digital technologies can be distinguished that are associated with the digitalization phenomena:

- *Analytic technologies and applications*, e.g., big data and AI, allowing for innovative forms of information processing for better insights and decision making
- *Mobile technologies,* e.g. smartphones and tablets, as well as applications that enable new business scenarios for customers, partners, suppliers, and employees.
- *Cloud technologies and solutions* that offer flexible and shareable digital capabilities (e.g., marketplaces, software as a service) to drive business agility.
- *Social media technologies and applications* that facilitate new forms of social interactions (Oswald, 2017).

The increased use of these digital technologies by organizations has affected them in many different ways. Oswald has summarized the major effects of Digitalization and the impact on organizations in his book 'Shaping the digital enterprise' (2017); digitalization touches every aspect of the company, from the drivers for doing business, to objects be used and to be created for doing business, and the context of doing business itself.

The impact of these digital technologies is driven by an increase in IT innovations. These innovations result in exponential growth in computing and data transmission speed, and an increase in storage and display capabilities of information and communication technologies (ICT) (Carlo, Gaskin, Lyytinen, & Rose, 2014). These innovations allowed organizations to optimize processes and to achieve a better operational excellence (Lederer, Kurz, Betz, & Schmidt, 2017).

At the same time, the increased use of digital technology has enabled a wave of service innovations (Barrett, Davidson, Prabhu, & Vargo, 2015) and the infusion of services themselves in traditional manufacturing practices and product offerings (Kowalkowski, Kindström, Alejandro, Brege, & Biggemann, 2012). The movement towards a more service-oriented product offering is almost always digital in nature. Services are used to exchange intangible goods, i.e. data. Some scholars suggest a service is an activity were two actors – an company and an customer in this case - create value together by collaboration and communication (Vargo & Lusch, 2008). As such, companies are heavily relaying on information and communication technologies to provide services to enrich the customer experience. They are using more digital technologies within their products, and thus producing more digital products, such as mobile- or web-based applications.

The utilization of digital technology in the operations of the organisation and creation of digital products has immediate effect on innovation processes. However, studies on innovation have their origin rooted in classic product innovation, dealing with creation of physical entities. 'Digital innovation' regarding digital products may not apply to the same rules as physical products. Especially on how innovation should be conducted (Nambisan, Lyytinen, & Song, 2016).

1.2.2. Digital connectivity and Digital Convergence

Digitalization in general is affecting product innovation in two different manners. First, there are the reduction of communication cost, increased speed and reach, amplified distribution of control, and coordination and collaboration among innovation participants. This is referred to as **digital connectivity**. Secondly, digitalization results in increased knowledge and resource heterogeneity within the innovation network, coined **digital convergence** (Lyytinen, Yoo, & Boland, 2015).

To simplify, digital connectivity is about the amount and speed information that can be transfer, translated or transformed among actors and devices. Like more roads and faster cars increase the mobility of people in a country. Digital convergence is then about the result of this increase mobility. Digital connectivity grands access to previously unobtainable information allowing for a richer understanding by the actors about things they want to know. These two property have significant effect on the innovation process, from which several are listed below and are explained in the text thereafter (not in the same order).

1. The rapid pace of digital innovation can produce outcome e.g. digital products,
2. The newly possibility to collaboration with one another

3. The increased participation of actors during and after the innovation process,
4. The increased ambiguous organisational processes and less control over the outcome,
5. The breakdown of distinct innovation stages,
6. The heterogeneity (diversity) potential of knowledge and actors and thus,
7. The increase dynamic and complex market context,
8. The increased potential to understand a need of the end-user on a more fundamental level through multidisciplinary approaches - adaption to the evolution of sociocultural models,
9. the state of flux in which the output of innovation can occur,
10. the ability for digital products to enable sudden change in context there are launched.

3.2.2.1 Meaning of the product

Digital product innovation research has mainly been focussing on the cost, speed and associated forms of distributed control enabled by the increased connectivity of digitalization. These applications of digitalization of the innovation process do not directly affect customers, because these innovations are related to the improvement of innovation process itself. In contrast with digital connectivity, digital convergence within the innovation process will affect customers. Its increased diversity of knowledge affects the output of the innovation process (6). A multidisciplinary collaboration with a multidisciplinary view on a customer needs increases the likelihood of understanding the problem at a more fundament level. Thereby potentially changing the meaning of a product itself, pushing the capability to reinvent the meaning of products to more and more the forefront (8).

Although multidisciplinary teams may improve the novelty of innovation, obtaining radical innovation favours a more individualistic approach of reasoning and a group effort (N Anderson et al., 2014) and intensive constructive criticism of between couples (Roberto Verganti, 2017) instead. Digital connectivity and digital convergence provide benefits for some factors for innovation, but they also increase the complexity for other variables. A multidisciplinary group may better understand the current evolution of the sociocultural model (incremental innovation), but may not be suited to transcend to a significant new meaning of the product on its own (radical innovation). Important to note is that the composition is the limiting factor, not the multidisciplinary nature.

3.2.2.2. Context of innovation process

Digital connectivity and digital convergence increase the complexity to manage innovation properly. This increased complexity arises from the rapid pace associated with digital innovation process and the low threshold of digital technology's ability to change and evolve (1) (Lyytinen et al., 2015)(Nylén & Holmström, 2015). The nature of digital technology is to constantly increase processing capacity and cost reduction, enabling an increasing amount of actors to develop – or participate in the development of - new products and services based on a specific digital technology (3) (Nylén & Holmström, 2015).

Digitalization has an impact beyond the boundary of any organization as a result of the digital connectivity effect of digital technology. Companies can more easy share and obtain knowledge from other areas. The digitalization does not only refer to the application of digital technology in companies, but to any socio-technology process across any type of industry (2). It affects the way underlying infrastructures of these industries create, store and distribute products and services. Digital innovation is the creation of novel digital artefacts which may use digital technology to function itself. The newly created tools or processes enable a new way of working themselves reinforcing the effect digitalization has on an organisation (1) (Nylén & Holmström, 2015).

These outcomes of digital innovation also remain in somewhat of a flux and incomplete state after the process (9). Various participating innovation, actors inside and outside the organisation, are then able to expand the scale and scope of initial novelty - e.q. open source software (Tilson, Lyytinen, & Sorensen, 2010). This incomplete state enhances the disruptive effect of digitalization in industries resulting in the current market being more dynamic and unsure than ever and the innovation process more complex than ever (7).

The state of flux and the increased ability to shared and created knowledge of digital product also breakdown the boundaries between different stages (5) (Nambisan et al., 2016). But also, the generativity of digital technology, due to its ability to enable sudden change by a variety of actors, increases the complexity of digital innovation. An external actor may alter the novelty in such a way, which was originally not envisioned, that its usage may either spread like wildfire or stops the adoption dead in its tracks (10). For example, hackers could utilize piece of software to achieve harmful means which was not the intent of the creators, forcing that company to take counter measures.

Digital innovation is dynamic and iterative. Information and communication technology allow for co-creative approaches to innovation through the facilitation of communication among all actors. It enables a constant interaction between designers, design users, the design process, and the design context. Digital technology connects the organization to its environment, and especially to its consumers (Bantau & Rayburn, 2016). Studies have shown that this approach is effective in addressing the dynamic and fast markets of today . Because of approaches to design products that are high iterative and are fuelled by the feedback of the users, such a as Human-centered Design (Norman & Verganti, 2012), are benefiting this boundary between user and design being blurred more and more (3). Furthermore, the digitalization enables data-driven operations resulting in a better understanding of its context by the company. Thus, improving the novelty of the innovation outcomes (Lederer et al., 2017).

Many companies choose to implement a process-oriented organization instead of a product- or function-oriented organization in reaction to the changing rules opposed by the digitalization (Lederer et al., 2017). However, the increased digitalization of the innovation process also increases diversity of knowledge and decreases control over the actors in the organisation. This causes the nature of innovation networks to shift more towards anarchy, resulting in less control over organisation processes, the outcome of the innovation process and the process itself (4).

Fortunately, this shift to innovation networks instead of processes has the potential to strengthen radical innovation. Through the emergence of a network , individuals, individuals with radical ideas are better able to organise themselves through digital technologies (Lyytinen et al., 2015). since, radical innovation is more akin with individuals and small groups having radical ideas (Roberto Verganti, 2017) digitalization may also unlock hidden innovation potential.

Thus, digitalization this effecting innovation on all front, the people whom participate, the process structure in place for innovation and the very outcome of innovation itself. Is digital innovation different from traditional innovation? Yes, most definitely. The initiation, adaption and implementation phase may definitely blurrier, but a clear adoption of the company is still required. The outcome is still something novel but, may be more incomplete. This could mean the implementation phase may never end, because customers keep developing the novelty further. This has opportunities to explore new possibilities in the initiation phase, again blurring innovation stages. The innovation model may therefore be more circular and less linear.

However, a clear distinguish between initiation phase and implementation phase can still be made, may it be in very different forms. And a clear adoption of the company is still required. Therefore, the model below is still relevant.

Innovation process

Initiation   Adoption   Implementation

Trendwatching, User research, Technology development, prototyping, desk research, Business analyse

Prototyping, Lean start-up, UX Design, Manufacturing
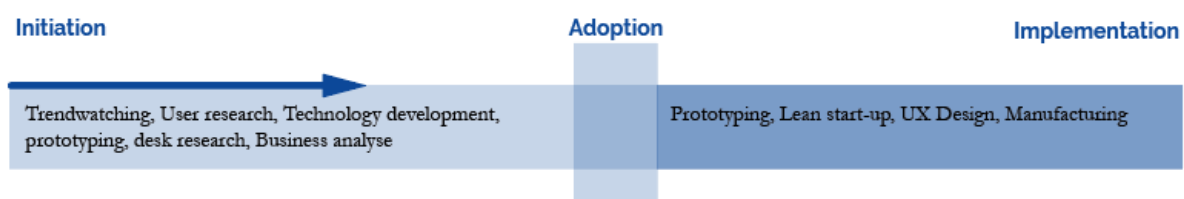
1.3.   Managing innovation complexity in a digital company with Agile

Although digitalisation in the recent past was mainly focused on computer power, today is more about connectivity, platforms, data and software (McAfee & Brynjolfsson, 2017). A necessity in digital innovation is the creation of software and its deployment in the IT infrastructure of the company. This is often regarded as the final manifestation of the innovation process, due to the thought of linear innovation process. The notion that the creation of software always has been a complex endeavour is well documented in literature. Software development can be seen as a 'Wicked problem' (Pelrine, 2011). The concept of a 'Wicked problem' was proposed by Rittel and Webber in 1973 (Rittel & Webber, 1973). Wicked problems are incomplete, contradictory and have constant changing requirements resulting from many interdependencies, as such it is making them inherently complex. Working on the problem and finding a solution may result in creating even more complex problems. 'Wicked problems' are messy, circular and aggressive. In light of the digitalization, the complexity of innovation only increases due to nature of digital technology, digital connectivity and digital convergence. Managing the complexity of digital innovation therefore, could be a valuable capability to increase the competitiveness of a company.

1.3.1.   Agile

The increased need to manage the complexity of digital innovation has not gone unnoticed. It gave rise to an increasing number of Agile development methods in a variety of fields. Numerous companies are adopting agile development processes to coop with their turbulent business context and to increase their agility.

Agility is explained as the ability to manoeuvre and adopt quickly to the changing situation, responding to change that makes the initial state unstable. (Tsourveloudis & Valavanis, 2002). The term 'agile' was first "*coined by a group of researchers at Iaccoca Institute at Lehigh University in 1991. The group involved many of the senior executives of US companies and the study culminated in a two-volume report conveying an industry-led vision for a fundamental shift in manufacturing paradigm*" (Denning, 2013)(p3).

In 2001 'The Agile Manifesto' was written by a group of 17 experts and scholars to fundamentally change the approach to software development (Beck et al., 2001). The manifesto harbours four values that are aimed at creating more valuable products and services for customers:

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

Figure 1. Primary development method used in organization across projects (601 respondents)

Agile has been a breakthrough in management and thousands of firms across the world have adopted Agile as a mean to develop software. Resulting in the adoption of agile development methods in 67% of IT companies reported by IT professional in 2015, see figure XXX (HP, 2015). Agile "*institutes a set of management practices and values based on customer focus achieved through iterative and incremental development, and where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams and their customers*" (Denning, 2013).

This could not be done with hierarchical bureaucracy as self-organisation is not facilitated in this practice. Tradition management is rooted in Newtonian mechanics and is aimed at dealing with heavily 'tamed' problems in for example mathematics and chess, and is poor in dealing with 'wicked problem' (Pelrine, 2011). Because innovation is a complex endeavour, and Agile is suitable for complex problems, Agile should be suitable as an approach to innovation.
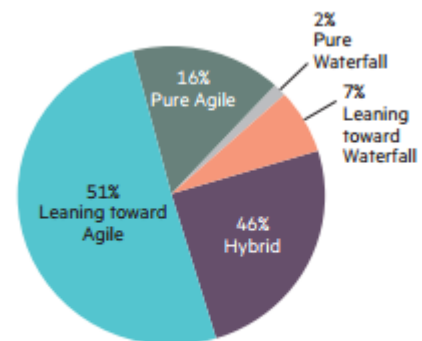
1.3.2. Agile vs Traditional

Nerur et al. (2005) have summarized all the differences between both development methods in one comprehensive table. To elaborate on some of the topics; Agile focusses on working on software over documentation meaning that knowledge acquired during the process is only present in the minds (tacit) of the people working on the project and not made explicit in documentation. Furthermore, the heavy use of iteration is favouring an evolutionary delivery model, which means constant testing of the concept throughout the process. (Nerur, Mahapatra, & Mangalaraj, 2005)

	Traditional	Agile
Fundamental Assumptions	Systems are fully specifiable, predictable, and can be built through meticulous and extensive planning.	High-quality, adaptive software can be developed by small teams using the principles of continuous design improvement and testing based on rapid feedback and change.
Control	Process centric	People centric
Management Style	Command-and-control	Leadership-and-collaboration
Knowledge Management	Explicit	Tacit
Role Assignment	Individual—favors specialization	Self-organizing teams—encourages role interchangeability
Communication	Formal	Informal
Customer's Role	Important	Critical
Project Cycle	Guided by tasks or activities	Guided by product features
Development Model	Life cycle model (Waterfall, Spiral, or some variation)	The evolutionary-delivery model
Desired Organizational Form/Structure	Mechanistic (bureaucratic with high formalization)	Organic (flexible and participative encouraging cooperative social action)
Technology	No restriction	Favors object-oriented technology

1.3.3. Scrum

The umbrella of 'Agile' entails numerous methodologies and applications. Most noticeable are Scrum, XP, Kanban and feature-driven design. Although the methodologies may differ in execution and may emphasize one principle more than another, they all share the same underlying assumptions (Bente, Bombosch, & Langade, 2012). Agile is a radical new management style with focus on satisfying the customer, self-organisation, horizontal communication among teams and continuous improvement and transparency (Denning, 2013).

The most applied methodology is scrum (HP, 2015). Scrum was developed by Ken Schwaber and Jeff Sutherland in the early 90s and was initially called 'Rugby', as the two found inspiration for Scrum in the sport. The basic concept of Scrum is that the activities are based on a fixed overall vision (ideas) instead of goals, targets or content. Because the context of the user is constantly changing, Scrum does not follow a master plan, only a vision. In this way it ensures the final product meets the users' actual needs and not the initial outdated requirements that do not match the current context anymore (Jongerius, 2013).

In Scrum, a multi-disciplinary team of software coders, designers, researchers and others team up to take on the task at hand. They define, or are given, a 'User story', which entails the vision of a product usage. A 'product owner' is assigned within the team to make sure the team sticks to the user story. The 'product owner' may be a member outside the team or a team member. The user story is translated into a 'minimal viable product' (MVP). The MVP is an envisioning of the user story into a workable product. The MVP is then broken down into small parts. These smaller parts can be everything; software features, wishes of the user, bug fixes, etc. Then the parts are prioritized by the team and from into a backlog. This backlog will form the basis for the sprints, 2 or 4 week periods of development. Under facilitation of the 'Scrum master' the team constructs the proposed 'minimal viable product' (MVP) based on the completion of the smaller parts. The Scrum master is responsible for making sure the team is not hindered by any delays during the sprints. After a first sprint, the MVP is tested with the users and changes and additions are adopted into the backlog. The process is repeated until the product is finished and the product can be delivered to the user (Jongerius, 2013).

1.3.4. Being Agile

Agile methodologies leverage fast iterations to deal with the complexity of software development. On the one hand the iterations help to understand the problem better, which is used in conjunction with the deep participation of the user during the process. The iterative approach allows for revising the user story or

the reprioritizing of the backlog, resulting in products more in line with the needs and wants of the customer (Denning, 2013; Jongerius, 2013).

One the other hand, the strong time-boxed nature of the Agile processes ensures better that the project is on time and on budget than traditional water-fall methods (Pelrine, 2011; West, Gilpin, Grant, Ph, & Anderson, 2011). The agile process is often perceived as anarchistic by people who are trained in a more traditional manner, however strong rules for self-organization are inherent to the Agile movement. Not to mention the strong governance on quality, hence the product owner. A feature must be finished in one sprint. If not, it is planned for the next sprint. This principle ensures that software is always ready for delivery after a sprint. If an employee does not deliver on time, he or she "Broke the build", which is the worse accusation an agile developer can get. In the end this highly iterative nature enables a different approach to the development and governance of software more attuned to development for end-users (Bente et al., 2012).

In a way, Agile development is highly atoned to sense the world outside the development team. The constant iteration and prototyping allows for quick feedback of the context designed for. Potential evolutions of the sociocultural models can quickly be adopted, thus making the design products relevant for the current market how dynamic it may be.

1.4.   Agile, Innovation and Digitalisation

An Agile mind-set will allow companies to more sensitive to their environment which is convenient in dealing with dynamic markets. It is no coincidence that Agile was developed by software coders during a time, the 90's, where the internet was up and coming. The creation of products and the creation of tools for the process is often deeply intertwined. In the era of digitalisation this still applies. Looking at the 10 distinctions of digital innovation made in previous sections and the Agile values, one could imagine how these values have manifested under the influence of the characteristics of digital innovation emerging in the early days of the internet, see figure XXX (authors interpretation of possible relationships between digitalisation and the Agile manifesto)
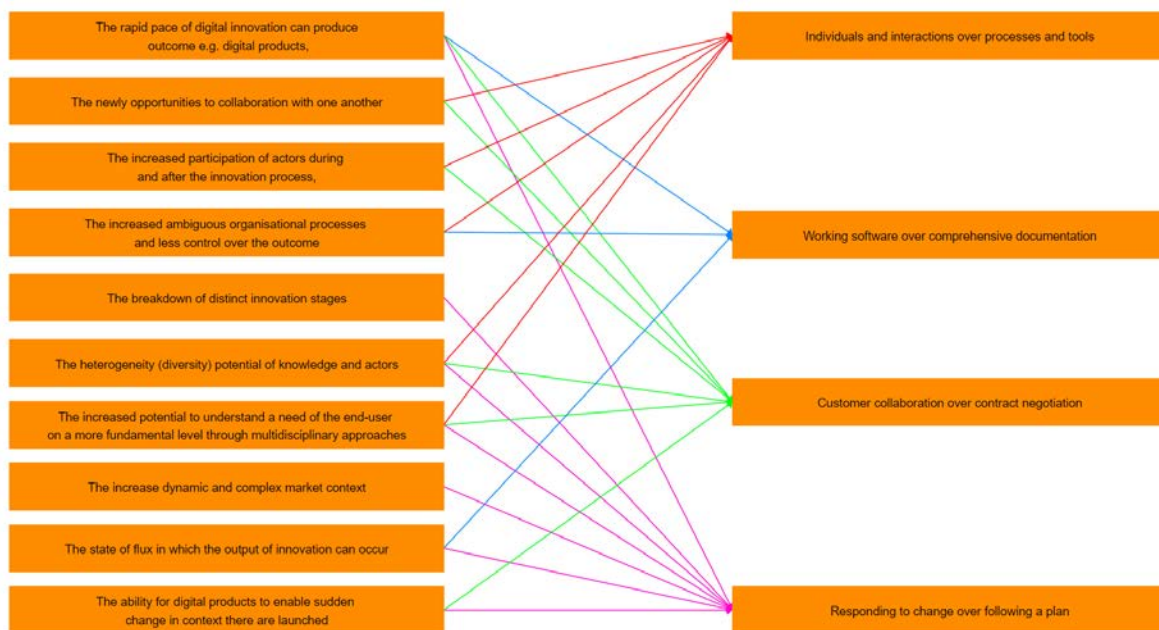
1.4.1.   Agile innovation

But if we look at the established innovation body of literature, Agile is a project management tool. Agile starts from a clearly defined goal (Bente et al., 2012). Which is different from many innovation projects where the beginning is often vague and fuzzy. Agile project management works often best when user needs are already defined and clear and a user story can be drafted. One of the values of Agile is 'building working software over comprehensive documentation', but this is hard to uphold during the initiation phase. During this phase, deep research and fuzzy process paths do have documentation and software just cannot be built yet. Thus, Agile practises are most often found in implementation phase of innovation. There are some exceptions, for example Kanban, which is an Agile method to manage workflows fully decouple from the content. Yet the majority of Agile is specific at making software happen.

As Neil Anderson, De Dreu, & Nijstad (2004) has stated including the initiation stage during the innovation process is more like to produce more radical innovation, one could argue that only applying Agile practises during the innovation process will mostly like result in incremental change. This is back-up by Roberto Verganti (2008) explanation why adaption to current evolving sociocultural models only result in incremental innovation. And since Agile is especially good at sensing the current context, so will the innovation coming out of this process perfectly fit the current context.

Furthermore, through the lenses of complexity management Agile has been found to be a weaker attractor to the repetitive behaviour than Lean – Lean is the predecessor of Agile in the domain of

manufacturing and developing products. Agile lets companies adapt the current situation instead of repetition and optimisation of the past experiences with Lean. However, Agile was not found to be able to achieve real novelty. That trade was attributed to more chaotic organisation structure wherein large social networks work together and have systemic interactions with one other (Putnik & Putnik, 2012). This further supports the notion that radical innovation is notorious hard to organise (Lyytinen et al., 2015; Roberto Verganti, 2017).

Agile is thus well equipped to iterate and improve existing products, allowing minor innovation that we increase customer satisfaction. Agile allows the companies to constantly adjust to the dynamics of its environment. These innovations will add features for customer, launch new application and services. However, these newly create novelty also have to be maintained and supported. After implementation, digitalisation keep leaving tracks. An increasing digital world, means increasingly digital infrastructures. For companies to react sufficent to these market is one issue, the other is maintaining operations.

1.5.   Enterprise Architecture
Companies who have utilized Agile have reported increased collaboration among teams that usually did not work well together before. It also led to increased software quality and increased customer experience (HP, 2015). Although Agile development methods yield benefits and valuable results in some situations, it does do less well when applied in its purest form in large companies with a complex IT infrastructure.

1.5.1.   Enterprise Architecture
The advancement of digital technology today has a disruptive power within the organization. Companies today do not only have to device infrastructure with more and more computing power, but the element of connectivity as a resource has been an ever increasing important (McAfee & Brynjolfsson, 2017). Every company, from smaller shops to large enterprises - whom can be considered as large companies with multiple businesses - have some kind of IT infrastructure. As such, scholars and experts have come up with different concepts to manage the IT infrastructure. One of these concepts is 'Enterprise Architecture' (EA).

"Enterprise architecture (EA) comes with a promise: simplify IT. The problem it is tackling here is about controlling the complexity and cost of IT while enabling the desired change and competitiveness for the business. The term enterprise architecture, in this context, appears to be self-explanatory: Apply architectural thinking to simplify the management of a complex enterprise IT landscape" (Bente et al., 2012) *(P31).*

EA is a response on two developments within companies whom are increasingly using more IT systems. First, the complexity of managing ever increasing costs to operate IT systems and secondly the decreasing ability to align these increasing expenses with business needs (Sessions, 2007). Business are heavily relying on IT and thus IT-business alignment has been an increasingly important topic in management. EA has become an established discipline to manage this alignment (Närman, Buschle, & Ekstedt, 2014).

EA reflects the structure and behaviour of the enterprise's IT landscape in relation to its business context. The practise of EA gives insight in the current state of IT utilization in business operations, envisions the future state and plans towards that future state (Bente et al., 2012). The IT-business' alignment has been examined on both strategic level and operational level. Enterprise Architecture has mostly been regarded as a management concept on operational level, however EA is having increasingly more influence on the strategy of the company (Chen, Wang, Nevo, Benitez-Amado, & Kou, 2015). The advancement of digital technologies and it's multi-facetted impact on the business naturally increases the necessity for enterprise architects to participate in strategizing of the company, because the IT department is becoming more and more fundamental for business operations (Oswald, 2017; Woodard & Tschang, 2013). Enterprise Architects are also strategically planning resources to accommodate the objects of the business.

1.5.2.   Agility in Enterprise Architecture
The discipline of Enterprise Architecture management is still not fully matured and many concepts for this management are present (Holmes & Nicolaescu, 2017; Schöenherr, 2009). The most common used

models for EA management are The Zachman "Framework", The Open Group Architecture Framework (TOGAF), Federal Enterprise Architecture (FEA) and Gartner (Bente et al., 2012; Sessions, 2007). Traditional approaches to EA have been rooted in hard systems thinking and make assumptions that problems can be well-defined and 'tamed'. Models of engineering follow an plan-based approach, have command and control style of management and utilized models like Water-fall of Spiral for development (Nerur et al., 2005).

EA historically originates form IT organizational approaches and is executed mostly by IT people, whom have little affinity and participation with business operations. But as businesses are more relying on IT and have a need for more agility in response to the highly dynamic market, they apply more Agile development methods, which have proven beneficial result for business objects. EA has a responsibility to facilitated this way of working, however, reality has shown that EA fails to keep up with the changing needs of the business (Bente et al., 2012).

Adding to the tension is that EA is responsible for always keeping the system in a deployable state, creating a natural limit to the amount of flexibility of the overall Architecture. A scaling problem for complex designs arises, as it is hard to implement a complex design in just one iteration or sprint. (Bente et al., 2012). The increasingly larger IT landscape has grown inherently with the software development of the company. As such, a large and complex information system has risen to accommodate the business processes (Van Waardenburg & Van Vliet, 2013). If an agile team would like to implement a new design in this it is often confronted with a certain amount of complexity in doing so. This complexity manifests in three different scenarios:

1. Systems for the proposed design are too huge for one scrum team to handle. This type of complexity is often tackled by decompose the systems to individual building blocks which are worked on by individual scrum teams. A 'scrum of scrums' is then held to piece back together the overall aimed design. This a proven method to handle larger projects.

2. Designs that are too complex in themselves to be implemented in one iteration. Teams will then decompose the Design in ways they will be able to deliver in one iteration.

3. Integrating designs cause problems and implications that are not fixable within one iteration. When these complexities present themselves, simple decomposition will not solve the issue, because these problems and implications are ill understood and cannot be broken down. Teams react to this by oversimplifying the problem and thus oversimplifying the solution in order to fit into one iteration.

All these approaches to complexity have a negative effect on the integrity of the enterprise architecture, because the overall system will result is an unhealthy constellation of many sub solutions, simplifications and quick fixes. Furthermore, the aftermath to redo and undo changes results in a 'refactoring hell'. As such, it is hard for EA to ensure and security and resilient IT infrastructure that is always operational (Bente et al., 2012).

Although different frameworks have been developed to scale 'Agile' and address the issues of complexity, they are highly immature. Three of the most noticeable frameworks, Disciplined Agile Delivery (DAD), Large-Scale Scrum (LeSS), and Scaled Agile Framework (SAFe), do have their benefits and drawbacks, but literature on these frameworks is poor(Dingsoyr, Nerur, Balijepally, & Moe, 2012). SAFe for example has even been criticised for not being truly Agile. The debate is still ongoing if the transition, moving from traditional plan-driven models of Architecture to Agile-based models, is better done gradually or by taking a hard turn (Vaidya, 2014). What is known, is that Agile adoption in IT organization does have the same obstacles and challenges as in any other environment (Nerur et al., 2005)(Van Waardenburg & Van Vliet, 2013).

1.5.3. Adoption of and transition to Agile in IT

Additional research shows some specific problems for the IT department when an organisation is adopting Agile. As mentioned before, the IT infrastructure and the development of software in large

enterprises is by itself already a complex endeavour. But when Agile is introduced to the current working style more complications arise. Both developments' approaches can co-exist. However, they have different processes and different development streams, and may work on the same problem at the same time. As result complexity increases even further in this situation, because communication between the two working styles is not aligned and dependences between agile and non-agile projects make it hard to know when it is finished. This results in an increased difficulty to enact change.

EA is responsible for alignment with the Business, and Agile does have its benefits for IT-Business' alignment. However, the adoption of Agile is challenged in the area as well, because the IT department is often still centralized in the company and projects spanning both business and IT are still plan-driven. The involvement of business in IT projects is therefore mostly at the beginning of the project. This could result in problems for IT in acquiring proper requirements. Business could have a slow reaction to change, and could have struggles in prioritizing of requirements for IT projects. Resulting in a slow reaction of the business on implemented features (Van Waardenburg & Van Vliet, 2013).

1.5.4. Agile Enterprise, Agile Architecture

Agile does yield benefits for Business and does seems to increase the value created by business activities in a highly complex and dynamic environment. However, the overall information and communication infrastructure of the business, Enterprise Architecture, which is the back bone of operations, has a hard time keeping up. The agility of business needs is restrained by a highly complex and large IT infrastructure. The integrity and security of the infrastructure is also crucial for business operation. Thus, tension arises within a company between the ability to react fast to a changing market by adopting and integrating novelty within the current IT infrastructure, without endangering the day-to-day operations which are mostly facilitated by a highly complex IT infrastructure.

1.6. Conclusion: Can Agile deal with digital innovation?

Digitalisation is pressuring companies to create new products and services with these new technologies. Digital technologies enable people and companies to collaborated in new ways. Digital technologies is affecting the speed and amount of knowledge that can be shared. This increased accessibility allows for better understanding of the context among actors. It has increased the complexity by blurring innovation phases, the scope of which actors participate, the rapid pace of development and fluctuating state it is delivered. Digital innovation affects the process and the outcome.

Agile software development has been a dominant force in creating digital products, but its methods may only apply to the creation of software and may not be suited to address the overall capabilities needed to approach digital innovation. Digital technologies enable new meaning for products, Innovation of Meaning e.g. radical innovation. Agile skips the initiation phase of the innovation process, and is not suitable to deal with the complexity of integrating new digital technologies into a vast and complex IT infrastructure.

This literature review can be consolidated into two graphics, the first represents Verganti's scheme (2007) overlaid with the reach Agile has opposed to other innovation practises (Product Design) and other manufacturing practises (Lean). The second represents the reach of these practises plotted against the innovation phases proposed in the is literature study.

The take away of this study is that Agile is incomplete to address radical digital innovation. The effects of digital technologies presented in this study must be taken into account in the proposed solution how Achmea IT can help Achmea brands to innovate with new IT technologies in an Agile manner.

Appendix C: Explorative research

1.1. Insights of observation

Previous chapter outline a basic image of how innovation is conducted at Achmea. This chapter tries to consolidate an opinion about what is happening within Achmea. This chapter should conclude with a research question.

1.1.1. Approach

Parallel to the work done on the literature study, I have been collecting insights from conversations, meetings, speeches and other activities. These insights were written down in memo's. These insights were clustered and condensed to more comprehensive insights, and written down as statements. These statements are not exact truths, but will help to provoke discussion with different people in Achmea in finding the tension Achmea is feeling in execution innovation. The section below will briefly explained four areas of tension. All statements can be found in appendix E.

1.1.2. Tensions within Achmea

Vision

It seems employees working within Achmea are confused on what the future value is Achmea wants to deliver to their customers. There is a strong leadership on how and what to innovate, but this is decentralized and divers among directors of departments. This results in innovation projects with similar aims without people knowing and learning from one another.

IT-Business alignment

Innovation actors across departments have ideas and vision on what the future value is for the customers, but it lacks a comprehensive view across departments and discipline. The IT department, whom has had a minor background roll in strategic decisions in the past, is being placed in the spotlight by the division and brands due to increasing attention to digitalization. However, poor understanding of one another's needs and wants results in poor relationship between IT and the business, which is unhealth for innovation.

Culture

Although employees very proud of Achmea and are very positive about labor conditions, they feel in general not at ease due to budget cuts and lay-offs. Employees rely heavily on informal structures and gossip, machismo and egocentric sense of competition is felt between and within departments, especially between employees whom identify more with their brand. Although employees are confident Achmea can innovate, they find it slow.

Innovation activities

Achmea's innovation activities are chaotic. Achmea committed to some major projects, which are initiated without the formal structure, but in general employees find most innovation incremental. How innovation is conducted is very confusing and unclear for most actors, and having a high level support is key. Implementation and responsibility after an innovation project is vague, resulting in no adoption in the company. Innovation activities involve the user very little and aren't aimed at customer value.

These tension were presented to the Innovation and Experience centre IT team. During a discussion if they recognised these tensions, - which they did mostly, only having issue with the 'culture' tension – they also identified three needs they would think will solve some issues.

1. There is a need to better share who is working on what and why, in light of innovation activities.
2. There is a need to better define what innovation means for different parties and what the process of innovation entails.
3. What does it mean to be the most innovative digital insurance company?

These needs of my client were considered in setting up my research that will enable my to answer my graduation assignment.

Research within Achmea

Large part of the effort for this assignment has gone into understanding the complex environment of Achmea. Whom is doing what in light of innovation? How do they do IT?

1.2. Explorative research

1.2.1. Aim of this research

As part of a crucial step in my graduation thesis/assignment, the aim of this research is to gain insights and to uncover enablers and barriers in the general atmosphere of the innovation process of Achmea. An explorative approach across different divisions/supply chains and the brands (referred to as 'Business') is used for this study. The aim of doing this research is twofold. First, the aim is for the researcher to collect data and second the participation and enlightenment of the client (Innovation and Experience Centre Achmea IT). They are the problem owners. Awareness of their working context is essential to fulling this assignment, therefore active participation of the client during analysis of the data collected by the researcher is used.

1.2.2. Research Question

In alignment with the graduation assignment; 'Design tools for Achmea IT to act pro-actively in enabling Achmea brands to innovate with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security.' The research questions are the following:

How can brands be helped by Achmea IT to use more IT knowledge during the Agile innovation process?

1. How does innovation play a role in Achmea?
2. How well can you use Agile to work on innovation in today's Achmea?
3. How is the collaboration with Achmea IT during innovation projects?

1.2.3. Approach

For this explorative research, a series of interviews are conducted, based on a prepared interview guide in combination with probing and laddering techniques. Memos are created by the researcher and audio is recorded during the interviews. The interview lasted approximately one hour and were done face to face, via skype or phone. Analysis of the memos and audio is done via transcribing. Statement cards are deducted from the transcripts and are used to move quickly up the DIKW-scheme (Sanders & Stappers,

2012) in preparation for analysis workshops with students and employees. The statement cards are scrutinized throughout the process by everyone involved during analysis. The analysis workshops are used to interpreter the data found on the Statement Cards, as exemplified below/as shown below in figurexx.

Participant 5.18
IT can't keep pace with Agile business activities, which slows down business
[28:17]: We have three teams .. 2 front-end and 1 component team ... to make the best of it .... We still miss connection in the field of integration, and then (about IT) it turned out to be just one team with just one man who has to do it all, who has no time in the first three months ... YES you know! Then we will all be hanging on a very small thing .... Yes, then, you see that this wagon (about SAFe) does not have the capacity at all. Then we have a fast-release train building but it's as weak as the weakest wagon ... that shows on a small scale what's is wrong. [29:59] (Asking what the person does) crying!! Then you'll see if it's different, but maybe you'll shoot for a month, but you'll have to lose yourself too

1.2.4. Participants selection

The selection of participants is done via purposive sampling. The research is done preceding a design stage in order to gain insights in the context of the design assignment. Therefore, a wide variation of opinions is preferred. The aim is to cover all dimensions of the context (Sanders & Stappers, 2012). For this research, this means all employee levels has to covered whom are working in the area of innovation outside the IT division and other supply chains and brands of the company must be present in sample. Eight participants were recruited for this study via the researchers own network.

Name	Function within achmea	Departement	Employee level	Division	Brand/chain
Bartelse, JJ (Jeroen)	Innovatie manager	Divisie Schade & Inkomen | Schade Particulieren | Innovatie	Medior	Non-life and Life	Chain
Dijkstra, JJ (Job)	Consultant Expertisecentrum Distributie	Strategie Marketing & Innovatie | Strategische Innovatie	Senior	Holding	Chain
Dood, MW (Martijn)	Product Owner ODV	Centraal Beheer | Particulieren CB | Klantcontact Online	Junior	Pension and life	Brand
Jagt van der, H (Hans)	ODV vernieuwing	Pensioenbeheer ODV Straat	Medior	Pension and life	Chain
Jong de, DB (David)	Manager Innovatie Schade Particulier	Divisie Schade & Inkomen | Schade Particulieren | Innovatie	Senior	Non-life and Life	Chain
Kemperman, JEB (Jeroen)	Senior Manager Strategie & Business Development	Zilveren Kruis | Commercie | CO Strategie & Business Development	Senior	Healthcare	Chain/brand
Nieuwenhuizen, LD (Linda)	Manager New Business & Digital Change a.i.	Centraal Beheer | Particulieren CB | Business Development Particulieren	Senior	Non-life and Life	Brand
Tetteroo, BEM (Bianca)	Member of the Executive Board	RvB | RvB	Executive	Holding	Chain

1.2.5. Context of this Study

This study is a part of a graduation assignment. The aim of the graduation assignment is to help Achmea IT better support innovation activities within Achmea. Therefore, knowledge gained by the researcher outside Achmea is combined to research the context inside Achmea. A clear understanding of the innovation process inside Achmea is crucial for Achmea IT, operating in this very same context, to improve their own activities. The figure on the next page explained in general how this graduation assignment, including this study, came about.

Process

External	Within Achmea IT	Within Achmea

Knowledge of the Master 'Strategic Product Design' Delft University of Technology

Internship at **Innovation & Experience center Achmea IT**

7

Worked on 7 projects

Insights were collected in two notebooks

Explorative conversations with 41 different people across Achmea

41

All insights were consolidated into **98 individual insights**
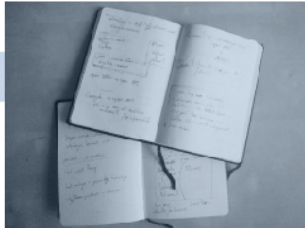
Graduation assignment

How can Achmea IT act **pro-actively in enabling** Achmea brands to **innovate** with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security?

Literature study on Agile, Innovation, Digitalization, Information systems and services

8 In-depth interviews on the topic of Agile and Innovation at Achmea

Generative analysis of transcripts, resulting in **25 enablers and barriers voor Agile and Innovation**

Mapping of enablers and barriers on importance and involvement of different actors in Achmea

Results are consolidated in three key areas: **IT collaboration, Innovation governance and Working Agile**

1.2.6. Analysis report

The analysis of this study is done through statement cards. This allowed for easy participations of the client and other students during the process. The first stage consisted of translating the audio files onto papier in form of transcribes. These transcribes were broken apart into meaningful segments. Similar segments were put together and summarized in a statement on the statement cards. Then the 250 statement cards were clustered by the researcher to allow for an early sense making process to work the data. The researcher asked colleagues to review and scrutinize the data. They translated the improved clusters into enables and barriers for innovation and agile activities.
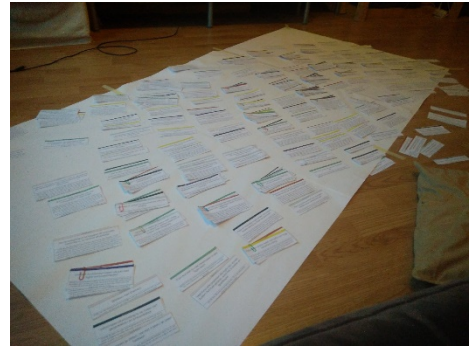
Up to this point the data and analysis represented only innovation actors working within brands or divisions. To understand how the innovation actors of Achmea IT thought about the perspective of the business, I asked to map the barriers and enables on two axis; on (1, horizontal) the involvement and influence of the IT department or Business departments and (2, vertical) the important for Achmea to act upon these enablers or barriers. And finally, the research mapped three key areas of attention on the map to summarize the research. These key areas were selected by the researcher for their overall coherence and strong preference of the team to act or not to act upon these barriers.
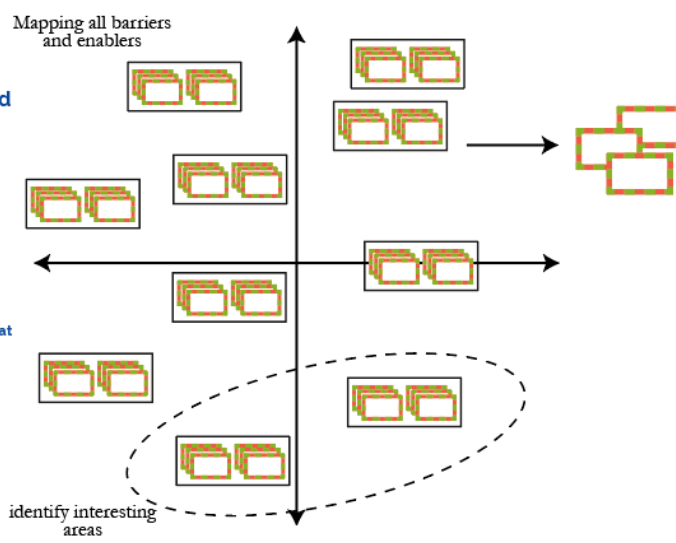
1. Interviewing

Researcher

Innovation actors of the brands and divisions

8 interviews

2. Transcribing

Researcher

250 statement cards

irrelevent cards thrown out
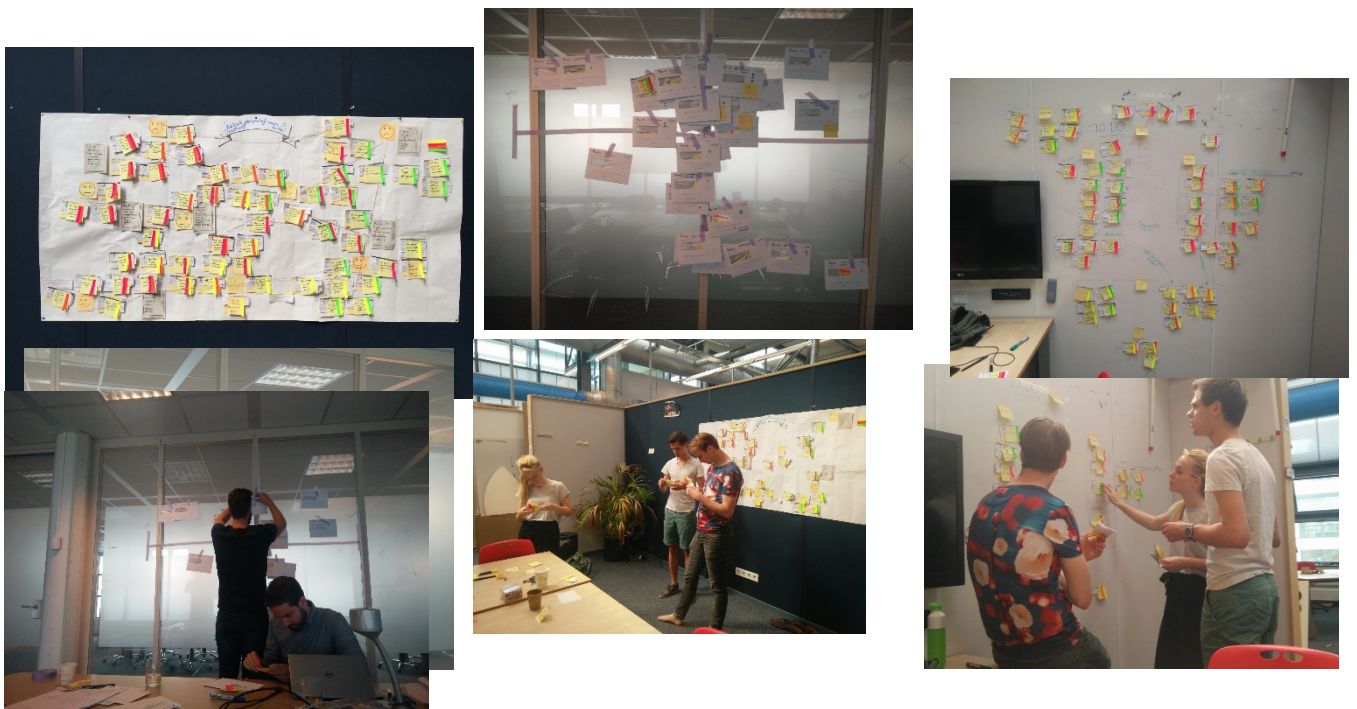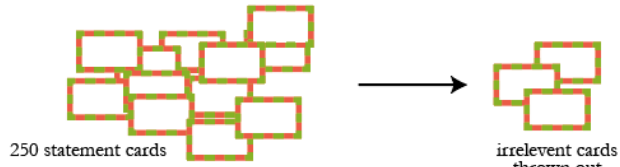
2. Clustering and sense making

Researcher

Clusrting of statement cards
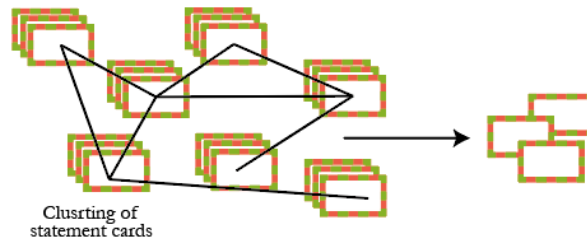
3. Reviewing and iterating

co-researchers

All custers redone and divided into barriers and enablers

4. Reviewing and mapping

Mapping all barriers and enablers

Innovation actors at Achmea IT

co-researchers

identify interesting areas
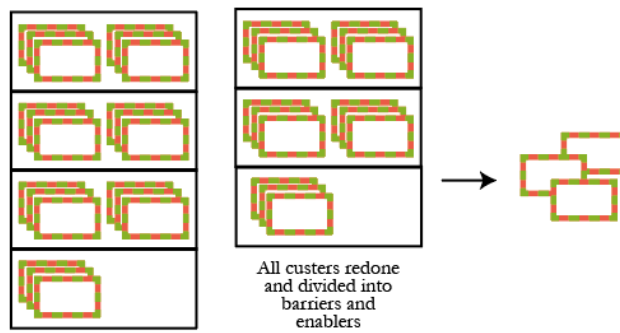
5.1.7. Results

The results are presented as follows. First a mapped overview is given of all enablers and barriers subtracted from the interviews and mapped by I&EC. Then each of the three key areas are separately discussed in depth. The next section will try to answer the research questions based on these results.

Research results

High preserved importance for Achmea by I&EC

Proper knowledge sharing is essential for achieving novel innovations

IT can't keep up with the Agile working style of Business

Clear multidisciplinary targets are needed

IT seems not transparant and hard to approach

Innovation projects are started ad hoc, with no guidance and no governance

IT collaboration

SAFe is received with scepticism

Innovation governance

Negativity surrounding IT is blocking innovation

Innovation managers are enablers and input for Agile teams

There is need for proper organisation support for innovation

Innovation projects aren't aimed at customer value

Explanation

This graph shows different enablers ✓ and barriers ⦸ for Agile and Innovation deducted from interviews with people working in the innovation domain outside Achmea IT. These enablers and barriers are mapped, in the perspective of I&EC, on (1, horizontal) the involvement and influence of the IT department or Business departments and (2, vertical) the important for Achmea to act upon these enablers or barriers.

There is need for proper and clear criteria for initiating innovation projects

Innovation projects are mainly focused on incremental innovation, improvement and optimalisation

Top down bureaucracy and paperwork are still leading within organisation

Decision should be made within teams

Main involvement is IT   **Main involvement is business**

Process oriented IT operation is hindering innovations

Innovation has a higher chance of succeeding with hypothesis testing

IT is a key element of innovation

There is no clear and shared understanding of what innovation entails

There is more need for freedom of acting

Legend

✓ Agile enabler

⦸ Agile Barriers

✓ Innovation enabler

⦸ Innovation Barriers

🏃 Team

🏢 Organisation

👤 Individual

🔴 Interesting for Achmea

🟢 Interesting for Achmea IT

🔵 Interesting for I&EC

⬤ Cluster

Agile methods enable clear and comprehensive setting of targets

Working Agile

Team formation is dependent on the task to be executed

Working together physical enables a better Agile working style

The nature of an insurance makes it highly risk avers

Agile way of working doesn't seem to be working everywhere e.g. administration

Clear value propositions are crucial for novel innovations

Low preserved importance for Achmea by I&EC

28

Key area 1: IT Collaboration

Participant 9: (During a presentation of business people to IT people) *"We could already indicate where that – our idea- could maybe be applicable to us ... .. This was accomplished by a presentation in which things were mentioned and information was given how we could deliver. We have indicated where our ambitions and what we wanted to come up with. And we want to look for the cooperation. And then you talk to each other ... and you are constantly checking over and over again our ambitions towards each other."*

Participant 5: (about Agile working style at IT in trying to match business): *"In general, they react uninterested, because it is of course the reality that they have too much ongoing business every day. But he did partake willingly and gave feedback and input where needed, if able."*

Clear multidisciplinary targets are needed

Proper knowledge sharing is essential for achieving novel innovations

IT can't keep up with the Agile working style of Business

IT seems not transparent and hard to approach

IT collaboration

SAFe is received with scepticism

Participant 9: *"I hope that people in IT innovation can also take better care of themselves, because sometimes I also have to manage those people. (So you sometimes manage two parties in IT?) Yes, exactly! I have to convince a lot of people from the IT organization on different projects."*

Negativity surrounding IT is blocking innovation

Participant 9: *"I hope that people in IT innovation can also take better care of themselves, because sometimes I also have to manage those people. (So you sometimes manage two parties in IT?) Yes, exactly! I have to convince a lot of people from the IT organization on different projects."*

Participant 8: *"And secondly, how many dependents do I have. Look, if I know it's full of IT dependencies, and do know that I will not get a grip, then I'll stop the project."*

Participant 5: *"The principle of a release train is basically just a waterfall principle. You need to do this first than that, then that and then it's done. If you start a project do check if it's okay what you are doing all the way through the release train, or are you going to check all the wagons of the train and say at the end :it's ready now. Are you still working on Agile or are you working with*

5.1.7.1. IT collaboration

Key area one is about IT collaboration. This area is about the working relationship between the IT department and the division and brands. The barriers for IT and other departments to collaborate are found in both the Agile and Innovation domain. They are seen by the team as relevant for Achmea to act upon. The team also positioned this area within the influence sphere of Achmea IT. The team thus holds themselves, as a part of the IT department, responsible to take action.

The I&EC team has identified two Agile barriers for collaboration with the business: *'IT can't keep up with the Agile working style of Business'* and *'SAFe is received with scepticism'*. These barriers are the only barriers or enablers found in this research at the business side that the team deems relevant to for Achmea. Interestingly, these barriers in the Agile domain are both are explicitly referring to the involvement of IT as a barrier (Scaled Agile Framework, SAFe, is meant for an all Agile organisation including especially IT).

Within the innovation domain the team regards two barriers important to tackle. Both barriers seem to referencing to an image related problem; *'IT seems not transparent and hard to approach'* and *'Negativity surrounding IT is blocking innovation'*. The first barrier may a reason the lather barrier is felt this way by the business. The first barriers is also perceived by the team to be important for Achmea, but not within the influence sphere of themselves, as such it is not a barrier they should act upon.

Besides the barriers, this key area holds two enablers. The first is *'Clear multidisciplinary targets are needed'* which could be regarded as potential solution in dealing with the barrier presented in the key area. The second *enabler 'Proper knowledge sharing is essential for achieving novel innovations'* provides additional insights. The innovation actors at the business need technological know-how to innovate better. They are searching for this information by IT, but are disappointed. It is interesting to notice that the teams see these enablers solely as their responsibility, although the business want to collaborate.

The innovation enabler *'Proper knowledge sharing is essential for achieving novel innovation'* is by the team regarded as highly important for the company, but solely their responsibility. The enabler is about the sharing of knowledge in favour of innovation activities, most noticeability expert knowledge on IT and new technological developments. Again, the team views this as important for company in general and for all innovation actors, but feels they must have ownership of the capability.

Conclusion

In general this key area can be summarized as the following; The business is in need of better collaboration with Achmea IT for both technological knowledge and resources. However, Achmea IT is more focussed inwards, resulting blindness of other's needs. This further leads to the misalignment of interests between departments. The image of Achmea IT presented by the business is thus also not recognised by IT. Moreover, the lack of commitment to work Agile by Achmea IT is also hindering the collaboration and fuelling the negativity surrounding IT.

Why is IT not interested in the business?

key area 2:
Innovation Governance

Participant 8: *"At the moment, I still too much involved during the whole process. Our role should be to recognize those things in the outside world and inside the world at matter, bring that together, from inspiration, and then put it into existing Agile teams."*

Participant 2: *"Ooh something is happens over there with cars, we have to do something too."*

Innovation projects are started ad-hoc, with no guidance and no governance

Participant 2: *"Business has something, IT has something, we have something. You see that everybody is doing their own things on their own... No, it's so strange it's not organized, we do not have a central venture point."*

Innovation governance

Innovation managers are enablers and input for Agile teams

There is need for proper organisational support for innovation

Innovation projects aren't aimed at customer value

Participant 5: *"You notice that the urgency to innovate is not felt everywhere and that IT is a bit further from the customer. There is also work to be done about that. We can make the front look nice, but we must also realize that people at the back do not know, at all, that there is a customer in the first place."*

There is need for proper and clear criteria for initiating innovation projects

Innovation projects are mainly focussed on incremental innovation, improvement and optimalisation

Participant 6: *"Yes, 8 out of 10 ideas that people had or who I had or whatever, I've choked. Because if it does not meet the boundary condition; - Do you have high-level people who believe in disruptive innovation on board? Do you have a dedicated team that says; "Yes, we are going to make time. And, yes, how much is will it be and we're going to fix it and have finished X Y Z in three months," – otherwise, I will not start the project."*

Participant 5: *"Innovation is subordinate, it is mainly about improving, everything has to be done to add value. The process improves, renews, changes, like hell what more ... to finally add value to either the organization or on the longer term to the customer. To me, you can put that all under 'innovation'."*

Key area 2 is named 'Innovation governance', because most barriers and enablers within this area are touching upon subjects surrounding organising, coordinating and decision making of innovation activities within Achmea.

With one exception, only barriers and enablers of innovation can be found within this area. The exception is the enabler in the Agile domain, that stated that innovation activities of innovation actors could be used as input for Agile activities. Other barriers and enablers explicitly for Agile are absent. This doesn't mean that these struggles only apply to innovation activities and not Agile activities. Agile is a project management method which could be used for innovation and thus Agile way of working is seen by the innovation actors as separate compared to other innovation activities at the business side.

Most barriers and enablers within this area are supporting one other. The barriers *'Innovations are started ad-hoc, with in guidance and no governance'* could be a reason why the enabler *'There is a need for proper and clear criteria for initiating innovation projects'* is mentioned, except underlying data suggest that the barriers are more about operational issues than strategic issues in the enablers. This is further supported by the enabler *'There is need for proper organisational support for innovation'.* The actors don't feel supported by Achmea to innovate within the interest of Achmea as a whole.

The barriers *'Innovation projects are mainly focused on incremental innovation, improvement and optimisation'* and *'Innovations aren't aimed at customer value'* are indicating the actors aren't satisfied with the novelties produced in the innovation process.

The team regards these barriers and enablers as important to Achmea, but sees them mostly as something the business needs to solve. Although they acknowledge their involvement, they don't see it as something they really should be considered about.

To summarize, this area indicated that the different actors feel misalignment between innovation projects and a lack of organisation control and commitment to coordinate all innovations. Furthermore, the innovations that are started are not on the level they wish

Key area 3: Working Agile

Participant 8: *"Yes, of course, it can work well. I see it already in our organization. The moment you put people together, you have a well-defined assignment. And you say: "Boys, you can decide yourselves how to get there and you will have everything to do so." Yes, it just works well."*

Participant 7: *"It does not make sense to do that via Skype or say: occasionally we come to Tilburg, occasionally we meet again in Apeldoorn. You just have to sit on together 24/7."*

Working Agile

Agile methods enable clear and comprehensive setting of targets

Team formation is dependent on the task to be executed

Participant 6: *"I really believe, with the 'nieuwe werken' (referring to Agile), that you are deployed where you can add most value."*

Working together physical enables better Agile working style

Agile-way of working doesn't seem to be working everywhere e.g. administration

Participant 4: *"My feeling says that this agile way of working in my mind applied anywhere. (In everything?) Yes! (And then you're talking about idea generation and running systems?) There you have a point. If you talk about administration and money from clients .. yes, of course you should not say: "Let's go and experiment." That does not work."*

Clear value propositions are crucial for novel innovations

Participant 8: *"It starts with the problem being really felt by the customers, is it big enough for the people."*

This area is different from the previous two in the sense that the team doesn't regard these barriers and enablers relevant for Achmea, where the others were selected specifically because of their relevance. Additionally, all barriers and enablers fall in the Agile domain. It can thus be concluded the team doesn't see value in Agile enablers or doesn't see issues with the barriers.

The team doesn't consider them their problem. Although it can be reasoned that one won't take on issues that he or she deems irrelevant, it is still interesting to note most of the Agile enablers and barriers are positioned as mainly the concern of the business.

The most interesting insights of this key area are found not with in key area itself, but in comparison with the other key areas. In summary, this key area reflects the sense that acting upon enablers and barriers within the Agile domain won't benefit the team or Achmea.

Why don't they want Agile?

5.1.7.2.Comparison between key areas
One could compare each and every single barrier and enabler, however for the sake of comprehension I will only list the most striking and insightful.

Multidisciplinary targets
An interesting contrast can be seen between the team's value towards the barrier 'IT can't keep up with the Agile working style of Business' and key area 'Working Agile' in general. They do respect the Agile work form of the business, but don't see themselves working that way. However, the enabler 'Clear multidisciplinary target are needs' is deemed very valuable, but if the similar enabler is presented in the Agile domain 'Agile methods enable clear and comprehensive setting of targets' then the team doesn't recognize the similarity in value both enablers share.

5.1.8. Conclusions
By concluding each sub question: How can brands be helped by Achmea IT to use more IT knowledge during the Agile innovation process?

How does innovation play a role in Achmea?
Innovation at Achmea is scattered and decentralized. Different teams through Achmea are working on the topic of innovation. The research has found different activities, needs, wants and interests among all innovation actors. The most noticeable result for this sub question can be found in the identified key area *'Innovation Governance'*. This area indicated that the different actors feel misalignment between innovation project and a lack of organisation control and commitment to coordinate all innovations.

Actors feel this misalignment is not only present between the activities of the innovation actors themselves, but also with the daily operations of the organisation. Projects and initiatives regarding innovation often relay on resources allocated to other priorities than those of innovation projects. This is reflected in both the available manpower and the organisation structure in which innovation projects are approved. For example: Innovation projects are regarded as regular projects with in the decision-making process. However, as most projects have representatives present during key meetings in the decision-making process, representatives of innovation projects are not present to uphold their interests.

Thus, the role of innovation within Achmea is small. A well-established and integrated business process to facilitate innovation activities is missing. Key enablers illustrating the conclusion are for example: *'Innovations are started ad-hoc, without guidance and no governance'* and *'There is a need for proper and clear criteria for initiating innovation projects'*.

How well can you work Agile on innovation in today's Achmea?
In the search to have an answer how Agile takes up a spot within the innovation process, the conclusion will be that it is valued by the business side of Achmea, but not by Achmea IT. Which seems to be

hindrance for the business side, because they expect to work in their preferred method, Agile, but are confronted with a partner that doesn't use it.

That doesn't mean the IT doesn't recognize the need for the business to work Agile. The team places the barrier *'IT can't keep up with Agile working way of the business'* very high on the importance of Achmea's axis. But they don't see Agile as something beneficial for themselves. Hence, all the enablers and barriers within the key area 'Working Agile' are seen as not important for Achmea to act upon by the innovation team at the IT department.

Thus, working Agile on innovation is not perceived as equally important by all innovation actors. Innovation actors at the brands are most familiar with Agile method, followed by the divisions and Achmea IT. IT is interesting to notice that innovation experiments at Achmea IT are done in an Agile manner, but the innovation actors themselves don't work Agile. Innovation actors at the business side have mentioned to be more involved within Agile practises themselves.

If asked the participants of the research what they understand about Agile, their answer varies slightly. In general, Agile is understood as a mindset. The two most common Agile approaches mentioned by the participants were Scrum and Lean start-up, although the participants were unsure about Lean start-up being a truly Agile method.

To conclude, Agile within Innovation activities is mostly present outside the activities of the innovation actors themselves, but they are often directly responsible for agile projects. Innovation actors at the business side are most more favouring Agile practises for their own activities, than innovation actors at IT, whom see little value in Agile for their innovation activities.

How is the collaboration with Achmea IT during innovation projects?
Innovation actors that the business side have made their relationship with Achmea IT during innovation project very clear. The two barriers in the key area IT collaboration *'IT seems not transparent and hard to approach' and 'Negativity surrounding IT is blocking innovation'* indicated a negative relationship with IT during innovation project. Moreover, from the position for the key area IT collaboration it can be concluded that Achmea IT takes a relative inwards perspective towards collaboration. For example, the barrier 'IT seems not transparent and hard to approach' is positioned as something that is more the concern of the business side of Achmea than of IT itself.

Within the study, I found that most innovation actors either need IT people to work on a innovation project that has been initiated by them, or because they need knowledge on new technology to applied in further projects. The simple need for IT people during the innovation process may be two different kind of knowledge; (1) IT expertise to build new applications (dubbed: IT tinkering knowledge) and (2) IT expertise to asses and understand new technological developments (dubbed: IT innovation knowledge). The first may applied to the project management side of innovation process and the second may be more required during the process itself.

Furthermore, Achmea IT seems not be able to match the needs of the business side to collaborated on innovation projects in an Agile manner. More specific, this applies in both the availability of resources and the sharing of expert knowledge needed for innovation projects. Although the need for the business to work in Agile manner may only apply when the project is in need of IT tinkering knowledge.

In a broader sense, it appears that the availability of IT resource to help build application during an innovation project not only an issue within the influence of IT. Another finding of this study that innovation activities are poorly structured and supported within the organisation, may also help explain to improper allocation of resources to innovation projects.

To conclude, collaboration between the business side of Achmea and IT is most defined by the introverted attitude of Achmea IT and the poor organisational infrastructure for innovation activities within Achmea. The need for IT tinkering Knowledge and IT innovation knowledge are separate needs of the business.

How can brands be helped by Achmea IT to use more IT knowledge during the Agile innovation process? The business is in need of expert knowledge in the field of IT during the innovation process in two different manners. The first need of IT knowledge in Agile projects is in form of people capable of tinkering and developing new solutions. The second need of IT knowledge is to help understand new technological developments can be applied in the innovation process.

When focussing on the second need in IT knowledge of the business, it is concluded IT is operating relatively inwards. The business is finding it hard to extract knowledge from the IT department. However, the business does acknowledge some responsibility of themselves to put more effort in acquiring that knowledge, but as this study shows there are barriers being experience by the business in doing so; Negativity attitude of the business towards IT, uncomprehensive IT organisation and scepticism of Agile at IT.

For the second need of IT knowledge, the IT tinkering knowledge, the utilization of this knowledge in an Agile manner is more suitable. Agile is a project management method aimed to quickly iterate on an idea. The qualities to build new IT application and solution are more needed in this context. However, Achmea IT doesn't see value in working Agile in the same way the business does, yet Achmea IT does recognize the value of Agile for the business. The increased agility to high dynamic market is valuable, but the context of IT is different. IT is occupied with maintaining and developing a secure and integer IT infrastructure. These are to different worlds. IT doesn't regard Agile as valuable in the context, resulting in poor alignment with the other Agile world of business, resulting in hindrance of innovation activities.

Furthermore, the organisational environment in which all innovation actors are operation is not optimal for innovation to succeeds. This finding is reflected in feeling the participants that innovations are mainly incremental and not aimed at customer value. Reasons for the poor performance of the organisation are the lack of organisational structure in among innovation actors themselves and the interaction with other business processes. Within the organisation there is no real commitment towards innovation. Innovation process are still regarded as 'special' projects within the decision-making process of the organisation. This results in lack of control on innovation activities throughout Achmea and a poor performance.

So, how can the brand be helped by Achmea IT to use more IT knowledge during the Agile innovation process? The answer is improvement of the organisation structure of innovation within Achmea and the recognition of two kinds needs in IT knowledge. Addressing the two different needs of IT knowledge separately may also answer the need to collaborated better in an Agile manner.

Interview guide questionnaire

Ik: Ik zal mij zelf even voorstellen. Ik ben Leroy Huikeshoven. Ik ben masterstudent aan de TU Delft. Mijn achtergrond is Industrieel ontwerpen, met focus op innovatie management. Momenteel werk ik aan mijn afstudeeropdracht bij het Innovatie & experience center van IT bij Guus van der Weijden.

Verder: Dankjewel voor het ingaan op mijn verzoek voor een interview. *De onderwerpen die ik wil bespreken gaan omtrent innovatie, agile werken en digitaliseren en de rol van IT hier in.*

Deelname aan dit interview is volledig vrijwillig. U kunt uw toestemming te allen tijde zonder reden en zonder gevolgen intrekken. Alle interviews zijn strikt vertrouwelijk. Eventuele verstrekte informatie wordt anoniem gemaakt en alleen gebruikt voor wetenschappelijke doeleinden. U krijgt de kans om de publieke presentatie te herzien om de vertrouwelijkheid te waarborgen. Aarzel niet om eventuele vragen te stellen ter verduidelijking.

Ik vraag ook expliciet toestemming op de gesprek op te nemen. Het interview duurt ongeveer 45 min met uitloop naar een uur.

Hoofdvraag

Hoe kunnen ketens/merken geholpen worden door Achmea IT om meer IT kennis te gebruiken tijdens het Agile innovatie proces?

1. *Hoe speelt innovatie een rol binnen Achmea?*
2. *Hoe goed kunnen jullie Agile werken in het huidige Achmea?*

Hoe is de samenwerking met Achmea IT tijdens innovatie projecten?

Part I – Introductie

Graag zou ik eerst iets willen weten van jou.

- Kun je kort vertellen wat jouw rol is binnen Achmea?
- Kun je kort vertellen wat je hier voor hebt gedaan, wat je carrière pad is, qua afdelingen?

Part II – Thema 1: Innovatie

- Kun je een goed en recent innovatie project beschrijven waarbij jij betrokken was?
  - [probe]: onderwerp, betrokkenen, jou rol, stadia, proces, teamleden, werkvorm, tijd, taken, positie.
    - Trigger Agile: verloop project, ervaringen
    - Trigger IT: Samenwerking, communicatie, rol, etc.
- Kun je beschrijven wat je verstaat onder innovatie?
  - [probe]; impact, raakvlak, type, resultaat
- In welke mate speelt innovatie een rol in jouw werkzaamheden?
  - [probe]:
- Kun je toelichten waar ideeën voor innovatie projecten vandaan komen?
- Kun je omschrijven waar je middelen vandaan haalt tijdens het project om het succesvol te voltooien?
  - [probe]: Besluitvorming, expert, haalbaarheid, nieuwe inzichten, IT requirements, users insight, geld, etc.

Part III- Thema 2: Agile (trigger Agile)

- In welke mate speelt een Agile werproces een rol binnen Innovatie in jouw werksfeer?
- Kunt u een recent goed project beschrijven waarbij er Agile werd gewerkt?
  - [probe]: betrokkenheid, deelnamen, tijdsduur, onderwerp, bedrijfsdeel,
- Hoe was je ervaring om in een Agile team te werken?
  - [Probe}: binnen het team, buiten het team, plaatje->

Management and organizational
• Organizational Culture • Management Style • Organizational Form • Management of Software Development Knowledge • Reward Systems
People
• Working effectively in a team • High level of competence • Customer relationships—commitment, knowledge, proximity, trust, respect
Process
• Change from process-centric to a feature-driven, people-centric approach • Short, iterative, test-driven development that emphasizes adaptability • Managing large, scalable projects • Selecting an appropriate agile method
Technology (Tools and Techniques)
• Appropriateness of existing technology and tools • New skill sets—refactoring, configuration management, JUnits

- Kun je omschrijven wat je verstaat onder Agile?
  - [probe]: values, principles, werksfeer, waarde

Part IV – Thema 3: Achmea IT tijdens het innovatie proces

- Kun je een innovatie project omschrijven waarbij Achmea IT betrokken was?
  - [probe]: stadium, deelname, toevoeging, relatie
- Hoe verliep de samenwerking?
  - [probe]: veiligheid, testen, EA, privacy, development, launch.
- Kun je een voorbeeld geven wanneer Achmea IT een stimulerende factor was tijdens het project?
  - [probe]: waarom, welke manier, informatie
- Kun je een voorbeeld geven wanneer Achmea IT een beprekende factor was tijdens het project?
  - [probe]: waarom, welke manier, informatie
- Op welke manier had u gewild dat Achmea IT betrokken was tijdens het project?
  - [probe]: waarom, toekomst, kennis

Part V – Afsluitende vragen

- In hoeverre bent u van mening dat Agile werken kan bijdrage aan innovatie binnen Achmea?
- In hoeverre bent u van mening dat IT een bijdrage kan leveren aan innovatie binnen Achmea?
- Hangen deze thema's samen volgens jou? Waarom wel, waarom niet?
- Hoe denkt je over de rol van Achmea IT in het digitaliseren van Achmea?
  - [probe]: process, inhoud, toekomst
- Hoe ziet Achmea er in de toekomst uit?

Appendix D: Insights

1. **Er is lijkt geen duidelijke visie wat Achmea moet gaan leveren in de toekomst. Zijn dat diensten? Producten? Hoe ziet eruit? Voornamelijk wat de vorm is van de toekomstige producten/diensten. Er is een visie op het bedrijf, maar niet op de producten/diensten. Het lijkt wel of hoger management redelijk voor ogen heeft wat ze willen, maar dit niet expliciet uitspreken.**
2. Er is harde sturing op C-level van innovatie. Maar alleen hoe en wat, maar niet waarom en waar naartoe. Het lijkt wel of hoger management redelijk voor ogen heeft wat ze willen, maar dit niet expliciet uitspreken.
3. Het lijkt alsof meerdere mensen met soortgelijk zaken bezig zijn binnen Achmea, maar geen weet van elkaar hebben.
4. Er is absoluut een heldere visie vanuit IT over hoe IT binnen Achmea relevant moet acteren en wat de rol van IT zou moeten zijn. *Maar is die correct*
5. Achmea werkt nog steeds wel in silo's, waarschijnlijk is dat ook de reden dat de koppeling met technologie is business lastig is, organisatie structuur.
6. Achmea IT heeft een ondergeschikte rol voor de bedrijfsvoering van het bedrijf, want het komt niet explicit terug in management praatjes (Bianca en Willem)(ondersteunend)
7. Achmea heeft moeite technologie, business en users met elkaar, te verbinden, hier is geen apart proces voor opgesteld.
8. **Achmea IT probeert samen met Business projecten te draaien om erachter te komen wat de behoefte zijn van de business om de IT systemen klaar te maken voor als de business dat nodig heeft. Dus projecten van Achmea IT zullen niet direct 1 op 1 resulteren in nieuwe geldstromen.**
9. Achmea IT pro-actieve houding naar innovatie toe
10. **De mid-level managers zijn eigenlijk ambassadeurs van innovatie en hebben visie op innovatie.**
11. **Er wordt voornamelijk gedacht vanuit IT in technologische oplossingen gericht op proces verbetering en niet in oplossingen voor de klant. Wij doen eigenlijk hetzelfde in termen van trends. (meer gericht op proces innovatie)**
12. **Er wordt vanuit de business naar IT gekeken als een enabler in plaats van als een driver, zelfs nu de strategie echt is om innovatie leider te zijn in de verzekeringswereld. Het lijkt er op dat IT zichzelf anders ziet**
13. Welke soort innovatie zou IT generiek moeten doen?
14. **De cultuur tussen verschillende merken en binnen Achmea IT voelt als hard en ongezond.**
15. **Men is bang om fouten te maken.**
16. **De cultuur leunt erg op het informele netwerk.**
17. **Er wordt veel geroddeld.**
18. Haantjesgedrag
19. Niet iedereen voelt zich Achmeaan. Zeker bij de labels voelt men zich eerder ZK/CB dan Achmeaan.
20. Er is het gevoel dat Achmea te langzaam innoveert.
21. Men is trots op Achmea en vindt haar een goede werkgever
22. Verschillende mensen hebben het idee dat Achmea te maken heeft met een braindrain van experts. Men gelooft niet echt dat Achmea in staat is om te innoveren.
23. Meeste innovatie op het moment gebeurt door mid-level managers die op een netwerkende manier binnen Achmea projecten draaien om innovatie aan te zwengelen.
24. Achmea heeft slecht contact met de klanten tijdens het innovatie proces. Primaire 'contact' is A-B testen
25. Rondom het innovatie traject door heel Achmea is geen éénduiding over hoe dat verloopt, wanneer welk project verloopt, wie er verantwoordelijk voor is, wanneer een project klaar is en hoe dat wordt geëvalueerd.
26. Er zijn grote experimenten (Road Guard & Actify)
27. Het is duidelijk dat innovatie binnen Achmea lastig is (omdat men moeite heeft met het kunnen voorstellen wat verschillende technologieën betekenen voor de toekomst van het bedrijf en de bedrijfsvoering).
28. Achmea heeft moeite om innovatie en ideeën te borgen binnen het bedrijf en daarvoor verantwoordelijkheid te geven aan iemand.
29. Achmea probeert sneller incrementele innovatie te doen op processen en producten d.m.v. een agile bedrijfsvoering
30. De waarborging van innovatie is lastig. De innovatie wordt na verloop tijd overgedragen aan andere teams die vervolgens op hun beurt alles weer af kunnen wijzen.
31. Er zijn specifieke middelen toegewezen aan innovatie.
32. Welke rol heeft Achmea binnen de Samenleving?
33. Wat voor soort bedrijf wil Achmea in de toekomst zijn?
34. Hoe heeft digitalisering impact op Innovatie in zowel proces als product?
35. Wat voor soort rol is er weggelegd voor de IT afdeling in innovatie? (ondersteunend, pro-actief, leidend)
36. Achmea, zou ik er willen werken?
37. Bestaat Achmea wel voor haar klanten?
38. Achmea IT probeert samen met Business projecten te draaien om erachter te komen wat de behoefte zijn van de business. Dit wordt gedaan om de IT systemen klaar te maken voor als de business dat nodig heeft. Dus projecten van Achmea IT zullen niet direct 1 op 1 resulteren in nieuwe geldstromen.
39. Er wordt voornamelijk gedacht vanuit IT in technologische oplossingen gericht op proces verbetering en niet in oplossingen voor de klant. Wij doen eigenlijk hetzelfde in termen van trends. (meer gericht op proces innovatie)
40. Eenduiding in wat voor soort innovatie wanneer wordt gedaan en waarom

41. Rondom het innovatie traject door heel Achmea is geen éénduiding over hoe dat verloopt, wanneer welk project verloopt, wie er verantwoordelijk voor is, wanneer een project klaar is en hoe dat geëvalueerd wordt.
42. Het lijkt alsof meerdere mensen met soortgelijk zaken bezig zijn binnen Achmea, maar geen weet van elkaar hebben.
43. Er is behoefte om beter met elkaar te delen wie waar aan werk en waarom
44. Er is lijkt geen duidelijke visie wat Achmea moet gaan leveren in de toekomst. Zijn dat diensten? Producten? Hoe ziet eruit? Voornamelijk wat de vorm is van de toekomstige producten/diensten. Er is een visie op het bedrijf, maar niet op de producten/diensten. Het lijkt wel of hoger management redelijk voor ogen heeft wat ze willen, maar dit niet expliciet uitspreken.
45. Meeste innovatie op het moment gebeurt door mid-level managers die op een netwerkende manier binnen Achmea projecten draaien om innovatie aan te zwengelen.
46. Wat betekent het om de meeste innovatieve verzekeraar te zijn?

5.2. Insights of literature review

1. The drivers for innovations today are technological advancement and highly dynamic markets (Edison, Bin Ali, & Torkar, 2013).
2. The outcome of innovation is a novelty in a variety of constructs, such as processes and products (Anderson, Potočnik, & Zhou, 2014; Crossan & Apaydin, 2010)
3. Creativity (idea generation) and Innovation (implementation) has been proven to be valuable capability to improve competitive advantage (Anderson et al., 2014)(Anderson et al., 2014).
4. Digitalization is driven by digital technology - Analytic technologies and applications, Mobile technologies, Cloud technologies and solutions, Social media technologies and applications (Oswald, 2017) – caused by IT innovation exponential growth in computing and data transmission speed, and an increase in storage and display capabilities of information and communication technologies (ICT) (Carlo, Gaskin, Lyytinen, & Rose, 2014).
5. Traditional innovation is regarded as linear, however traditional views on innovation process don't apply necessarily on digital innovation (Nambisan, Lyytinen, & Song, 2016).
6. Digitalization affects all areas of the firm's process, product, business models, eco-system (Oswald, 2017).
7. Digitalization has spawn a wave of digital products, because of an increased focus of companies on services (Barrett, Davidson, Prabhu, & Vargo, 2015; Kowalkowski, Kindström, Alejandro, Brege, & Biggemann, 2012)
8. Digitalization property 1; Connectivity, the reduction of communication cost, increased speed and reach, amplified distribution of control and, and coordination and collaboration among innovation participants(Lyytinen, Yoo, & Boland, 2015).
9. Digitalization property 2; Convergence, increased knowledge and resource heterogeneity within the innovation network (Lyytinen et al., 2015).
10. Digitalization enables a better multidisciplinary approach to innovation processes, across team, companies and industries (Tilson, Lyytinen, & Sorensen, 2010).
11. Digitalization enables better understanding of complex problems, which could result in more radical innovation results (Verganti, n.d.).
12. Digital product remain in a state of flux after launching, they are never finished (Nambisan et al., 2016).
13. Digitalization enable more actors to participate during and after the process, increasing the complexity and ambiguity of the process (Nambisan et al., 2016).
14. Digital innovation effects the outcome and the outcome effects the process, through the nature of the product and the utilization of the outcome e.g. tools.
15. Digital products are able to enact sudden change in infrastructure, routine and behaviour causing markets to be more dynamic and complex (Lyytinen et al., 2015; Nambisan et al., 2016).
16. Digital technology connects the organization to its environment, and especially to its consumers (Bantau & Rayburn, 2016).
17. The digitalization enables data-driven operations resulting in a better understanding of its context by the company. Thus improving the innovation outcome (Lederer, Kurz, Betz, & Schmidt, 2017).
18. Many companies choose to implement a process oriented organization instead of a product- or function oriented organization in reaction to the changing rules opposed by the digitalization (Lederer et al., 2017).
19. Nature of innovation networks to shift more towards an anarchy. This results in less control over the outcome of the innovation process and the process itself (Lyytinen et al., 2015).
20. Radical innovation has a better potential to emergence form innovation networks, because of its anarchic nature (Lyytinen et al., 2015).
21. Digital innovation is inherently connected with software creation, which is regarded as a complex - wicked – problem (Pelrine, 2011).
22. The increasing complexity of innovation is caused by the digitalization, resulting in more networked innovation and more creation of digital products.
23. Agile development methods has been an answer to the increasing complexity of creating digital products and unstable markets; focussing on people, code, visions of customer needs and iteration (Nerur, Mahapatra, & Mangalaraj, 2005)
24. Agile development is radical different from traditional development in organisation structure (process vs people), values (products vs. customers) and approach (measurement vs assessment) (Nerur et al., 2005).

25. The iterative approach allows for revising the user story or the reprioritizing of the backlog, resulting in product more in line with the needs and wants of the customer (Denning, 2013; Jongerius, 2013).
26. The most applied methodology has to be scrum (HP, 2015).
27. the strong timeboxed nature of the Agile processes ensure that the project is on time and budget better then tradition water-fall methods are able to do (Pelrine, 2011; West, Gilpin, Grant, Ph, & Anderson, 2011).
28. Agile process seem to be anarchic, but they are strong controlled on the people level, self-organization (Bente, Bombosch, & Langade, 2012).
29. Enterprise architecture (IT infrastructure, needed to support digital products) is tasked with controlling the complexity and cost of IT while enabling the desired change and competitiveness for the business (Bente et al., 2012).
30. Business are heavily relying on IT and thus IT-business alignment has been an increasingly import topic in management (Närman, Buschle, & Ekstedt, 2014).
31. Enterprise architects are participating more and more in the strategizing of the company, because the IT department is becoming more and more fundamental for business operations (Oswald, 2017; Woodard & Tschang, 2013).
32. Most model of EA have been rooted in traditional thinking and are plan-based and not Agile (Nerur et al., 2005).
33. EA fail to keep up with the business, due to a large and complex IT landscape (Bente et al., 2012; Van Waardenburg & Van Vliet, 2013).
34. Agile development methods is not yet equipped with proper tools and frameworks to manage a complex IT infrastructure. Agile has a hard time dealing with the many interdependences of large digital products when implementing(Bente et al., 2012; Dings??yr et al., 2015)
35. Agile adoption in IT organization does have the same obstacles and challenges as in any other environment (Nerur et al., 2005)(Van Waardenburg & Van Vliet, 2013).
36. Adopting Agile in transition or partly increases complexity of the IT department, because Agile and non-agile projects are very hard to align (Van Waardenburg & Van Vliet, 2013).
37. Projects across business and IT departments are mostly plan-based, resulting in poort product owner involvement of the business (Van Waardenburg & Van Vliet, 2013).
38. Tension arises within a company between the ability to react fast to a changing market by adopting and adjusting novelty within the current IT infrastructure, without endangering the day-to-day operations which are mostly facilitated by a highly complex IT infrastructure.

Appendix E: History of Achmea

Achmea is a cooperative insurance company dating back to 1811. It has grown in size through market growth, mergers and acquisitions. All brands owned by Achmea were responsible for their own IT infrastructure until the late 90's when Achmea recognised the increasing costs of its combined IT infrastructure. In addition, the ambitions and strategic goals of different brands began to divergence, resulting in further fragmenting of IT needs and increasing the overall complexity to manage the IT infrastructure of Achmea.

Mid 00's, Achmea decided that all IT infrastructures of the brands are internalized into one general IT division: Achmea Shared services Center IM&IT. The aim was to reduce complexity and rationalization of the IT landscape in order to build a flexible and sustainable IT infrastructure (Kleyngeld, 2012). As a post-merger company Achmea wanted to create competitive advantage through the effects of having one IT infrastructure, creating synergy among all IT services provided to the brands.

In 2008, a transformation process was initiated in which Achmea aimed to become a fully digital insurance company by 2018. Three stages were proposed to reach this goal. First Achmea IT needed to regain control over all its IT assets. Secondly, Achmea IT needed to rationalise and integrate different systems and services to reduce costs and lay off old-legacy systems. And lastly, a fully standardized jet flexible and sustainable infrastructure had to be built to support the complete portfolio of Achmea. The final stage is aimed to be finalized in 2018. This transition is done via dedicated Transitions boards situated in the dedicated IT divisions responsible for different market segments.

Although Achmea IT has a well-defined strategy to be prepared for the future, the business is still somewhat in disarray. This increases complexity for Achmea IT to facilitate the business, because alignment between business models does not yet exist. Therefore, real synergy between all IT systems including business models is not achievable.
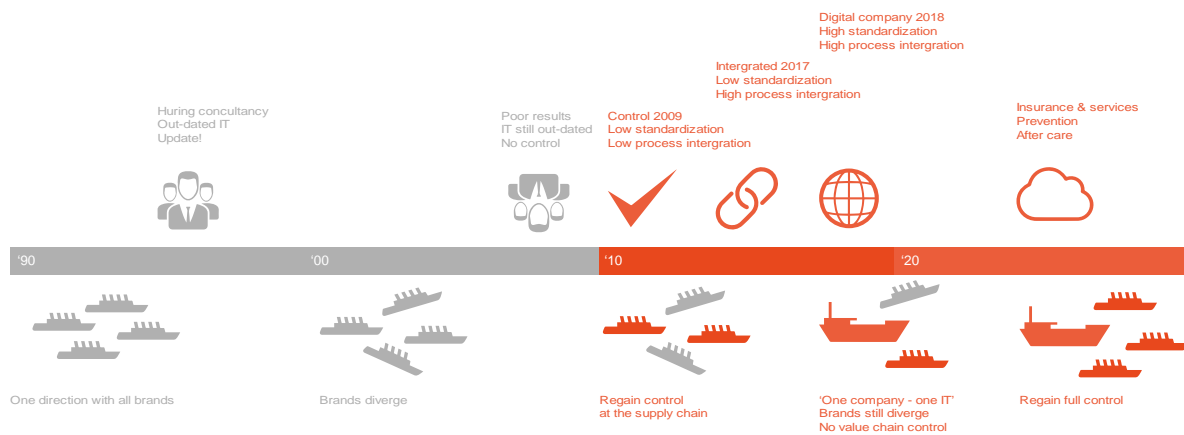
To figure out to which extend the transition needs to happen and to forecast what the future might hold, an innovation team has been established. This team of seven people are working within the general IT division on innovation.

The notion what innovation entails is not defined and innovation within Achmea is applied in the broadest sense possible, from business model innovation to process improvements, from Customer experience to separate start-ups. Although 'innovation' is a very broad term, this team is assigned to be responsible for IT innovation. Being a IT department means having a technological perspective on innovation. Innovation projects therefore must have a technological component. Thus, innovations produced by this team are technological in nature. Furthermore, whenever a project or initiative is regarded as innovation by the team is still not well defined. But innovation projects are only accepted when it cannot find a spot in the regular development and improvement process. Thus, projects or initiatives that seem to improve the overall business by doing things in a better way one or other areas will be adopted by the organization although. If not seen directly as a fit with current operations but prospect

beneficial results, then these projects are regarded as innovation. However, this 'fit' with current operations is often subjective.

Appendix F: Summary frameworks envisioning process

7.1. A skeleton for an envisioning process

The process needs a structure that enables different tools, methods, deliverables, participants to be coordinated into a coherent process. In order to come up with a structure for the envisioning process, I revisited literature and material from electives I took mostly rooted in new product development. I enriched this knowledge with a shallow desk research in other areas. Based on that literature I found, I devised a basic framework with five steps how envisioning of new product offerings based on technology should unfold within Achmea. I have drawn insights about the process from the following frameworks:

1. A framework based on the creativity consultancy sector in Management of Technology and Innovation area (Kembaren, Simatupang, Larso, & Wiyancoko, 2014),
2. a framework for product Visioning based on the creation of future concepts in large multinationals (Mejia Sarmiento & Simonse, 2014),
3. a maturity model for Organisational future orientation (Rohrbeck, 2010),
4. the renowned AIDA-model utilized broadly in Marketing industry (Strong, 1925) and
5. a Generic Foresight Process for Future studies (Voros, 2001).

A full description of the steps presented in each framework can be found in Appendix H.

7.2. Aim and steps

The aim of creating product offerings is to engage people in the discussion what the implications of new technologies could be in the future (Mejia Sarmiento & Simonse, 2014). The tool facilitates this aim by engaging many different actors during the process and to discuss the results at senior management level for strategic planning. The process steps should therefore not only deliver a vision, but also engage and trigger people in the process. The steps are the following:

1. **Sensing:** The process starts with an incentive or wish to create a future vision. The wish could be better understanding of technology, but could also come from somewhere else. The process will be similar either way. This incentive or wish will define your direction, the lens through which you scan the environment. Next, insights about the future are looked for and collected. Information is key during this phase. It can come from anywhere. Idea's, scientific papers, magazines, spouse, etc. In this step, great many actors could participate in sharing knowledge.

2. **Understanding:** After collection information, it is important to synthesize all this information into a narrative that could be understood by others. The narrative itself should provide a direction where your vision will be about, a direction of preferable future. Synthesis requires intensive engagement of the participants involved. Large participation of actors is less likely.

3. **Imagining:** A direction will set boundaries where we could envision new product offerings. The following step is to come up and design new product offering set in a preferred future context. This context is defined by the narrative. A clear design assignment of future product offering could be set out based on the narrative. Therefore, a large audience could participate in designing. The future product offerings in concept are meant as boundary objects. These boundary objects can then help explain and enrich the narratives found in step 2.

4. **Adopting:** This phase all about interpreting what the new narrative means for the current situation and strategy of the organisation. The created visions/future product offerings are especially handy in these steps. These boundary objects useful at higher level to provoke and engage senior

1. Sensing
1. Defining the sensing direction
2. Sensing changes: problems, developments, opportunities and risks

2. Understanding
1. Interpretation of the data
2. Draft a narrative from the data

3. Imagining
1. Drafting Design brief
2. Design future scenarios
3. Enrich narrative with future scenarios

4. Adopting
1. Interpreter new narrative
2. Adopt new reality
3. Guide direction
4. Communicate new direction

5. Implementing
1. Plan
2. Act
3. Do
4. Check

managers, but also to give space and room to make up their own minds. This increasing acceptance of the narratives. These steps also yields commitment of senior managers to act on the implications of the new narratives and visions of the future. These steps lay with the leadership of the organisation and thus exclude large participation of actors.

5. **Implementing:** The final step is securing actions to pivot the organisations towards that new direction. Implementing, actions, changes, criteria, etc. are helped by the visions to gain acceptance within the organisation. This step naturally includes the complete organisation and its eco-system.

The steps above form a basic structure for a process. It is more like a skeleton. Each step and it's more specific activities, actors and deliverable are yet to be defined.

7.3.Conclusion

The envisioning process is based on Inside-out innovation to create preferable futures where we could envision future product offerings that have a radical new meaning for the user. The framework outlined in this chapter draws form different approaches of inside-out innovation: Vision in Product Design, Innovation of Meaning and Contextmapping. Elements of these approaches are used to create a process that have deep user research and allows for open or networked innovation, which is needed for digital innovation to succeed. This five step process will help Achmea IT to envision the future state of their IT infrastructure, through a process that helps innovate the brands with digital technology.

8. Reusing Achmea's resources

The framework provides a skeleton to build a coherent envisioning process. The process is specifically designed for Achmea. To keep the analogy going, one could say the potential participants in this process are the muscles, doing the work. In chapter 2, I have made an analysis of all the activities of Achmea regarding innovation. As concluded,

Achmea Future orientation process

Design process

Foundation/requirements

Theory/approaches

Achmea resources

Additional tools

these activities were not organised to be complementary to each other. In other words, they did not make use of the others strength. An innovation process has many stages and needs many different activities to complete. Lacking synergy between activities, which is a missed opportunity.

Utilizing existing approaches in a more effective way, where one activity could be the input for the other will result in a better overall performance of innovation. An innovation strategy that leverages the synergy between activities will yield more innovations attuned to your organisation needs (Pisano, 2015). Therefore, I did not want to redesign a new process, but rather restructure and enrich existing processes. The following section outlines how each step is realized with existing or additional activities.

However, placing existing processes in the framework will not be sufficient to complete the process. Additional tools need to be developed by me. These gaps are presented in the section below and marked with a capital letter e.g. A or B. These gaps are then address in the next chapter.

8.1.　　Sensing

The first step is all about gathering insights about the future by collecting bits and pieces of the future by different actors. The most attuned actors within Achmea to do so are the innovation actors that already have, formally or informally, activities in place to scan/sense the environment of Achmea for potential insights. Other actors within Achmea, such as senior managers or product owners, may be suited as well because their job also involve a high degree situation awareness.

Suggestions towards these actors can be done regarding more structured approach to environmental scanning. Methods and tools, such as DEPEST or Focus groups, can be suggested. However, for this stage in the development of the envisioning process, we regard the current activities as sufficient. Rather, the aim of this process is to restructure existing processes. Therefore, we have to make some standardization to the value that is created by these activities e.g. all insights should more or less be reported in the same understandable format to be used for synthesis.

However, no suggestion has been made how and when an envisioning process should be started. This is the first gap (A) that needs to be solved. The second missing piece (B) is proper selection of the participants. The project needs to support open or networked innovation. The people whom need to participate may not be so clear from the start.

8.2. Understanding

The second step uses the output of step one, the insights, as input for its process. Identifying patterns, clusters, tensions and narratives is the mean goal of this second step. The participating actors need to understand what the big picture is that these fragments (insights) try to tell. The participates need to interpret the information and judge the value of each piece. The process is messy, blurry, subjective and intensive. Therefore, only a select view will participate at any given time. The actors that are most responsible for these foresight activities should participate, thus the innovation actors themselves. Maybe senior managers should participate as well for better alignment with the leadership of the organisation.

Achmea does not have any activity in place that is specifically attuned for this step. Although Achmea has a core team innovation were general learnings and process of innovation activities are shared, no special attention is given to general insights that affect Achmea in the future (C).

Therefore, a gathering where these actors physically come together to work on establishing a shared understanding of these insights is proposed (D). The output of the gathering (meeting/workshop) should be a vision, a narrative, about how they see the future. This can be as simple as two short sentences, but preferable more in memo style (E). This synthesised result should be about their preferred future of Achmea.

8.3. Imagining
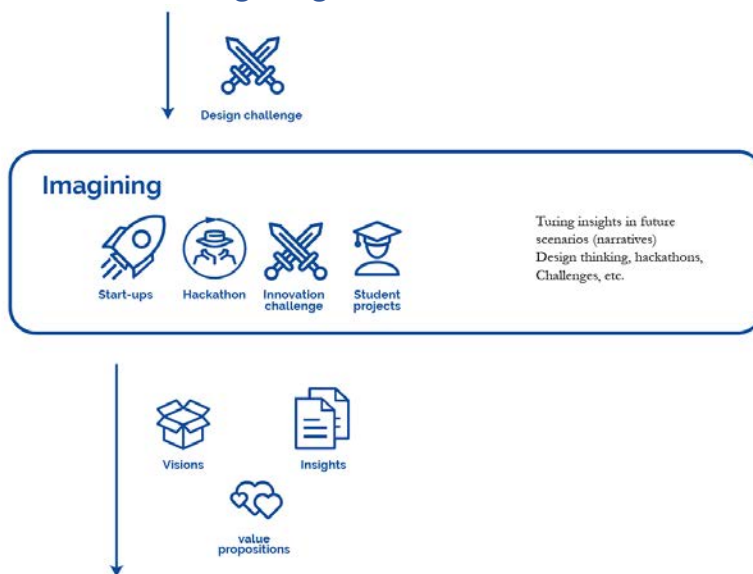
One of the most important elements in the envisioning process is the utilization of future scenarios or vision as boundary object. However, Achmea does not possesses the capability of a designers to do so. There are no activities in place that can imagine and transform information into higher form of language, such as short-movies, videos, stories and concept. This capability lays mostly in the area of art. Professions such as designer, writer and filmmakers are needed in this phase to transform the narrative into appealing and understandable messages e.g. boundary objects.

However, Achmea has organised numerous innovation challenges, start-up boot camps and hackathon to leverage design capabilities in others. But these activities are not aligned to and contribute to other

activities. Turning the narratives of step 2 into design challenges for potential designers will align different activities and help make boundary objects to convey the narrative established in step 2. Furthermore, this kind of open innovation enable by digital technology helps gather new insights and scrutinized the narrative first established. Designer internalize the challenge and will propose solutions based on their own perspective.

8.4. Adopting
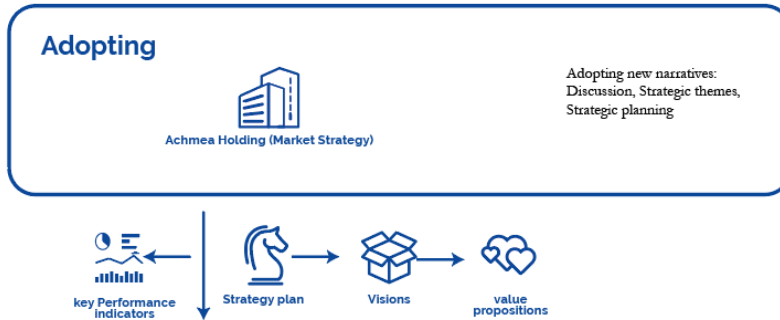
After the narratives are explained and enriched with visions of product offerings a comprehensive report could be established for the leadership of Achmea to read and work with. The current manner in which the board of directors leads themselves to be informed, is through documents and presentations made by employees. This would still be sufficient for this process, because to bigger progress would be the content and not the format of means to inform the board. However, a more engaging format will yield more internalization of the content. Demonstrations of product offerings, workshops and informative games will engage more and thus increase understanding of the new possible alternative futures at the highest level of management.

These visions and new narratives (future product offerings) still need to be discussed and implications need to be assessed. Assessment of the implications can be done both in the previous step and the next step. The leadership may want to have implications ready to be discussed or want to steer the assessment before it is executed.

Through existing practises of strategic thinking and planning the implication caused by the new narratives could be accounted for in a new planning. These measures then should be secured in existing business processes. Furthermore, the created future visions could help the communication and acceptance within the organisation of the change in strategy. Furthermore, future product offerings that have high potential and are within the strategy of Achmea could be used as input for different innovation funnels.

8.5. Implementing
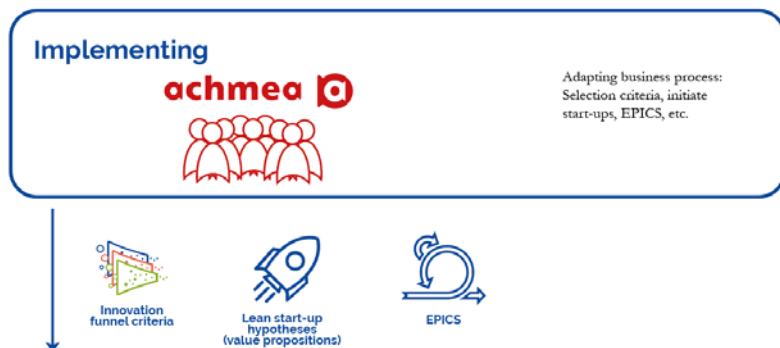
After changes in governance are made by the leadership, employees can start acting towards the new preferred future. The new narrative is then implemented in the behaviour and guidance of the organisation. In Achmea this could mean adjusted criteria for innovation funnels, different prioritization of EPICS (large Agile projects), fast tracking of value proposition testing through lean-start up, etc.

8.6.   Overview

The complete process is not necessarily linear, as the process of collecting insights can be done on its own. The same goes for the other steps. Although it will be very important to have beginnings and endings of each step have some rhythm among all of them. So, that the output of one step can be the input for the other without much delay.

Furthermore, insights could also be generated by designing product offerings in step 2, discussion of future narratives in step 3 and 4 and the learning for creating new product offerings in step 5. And the strategic direction will also effect the lens through which the innovation actors look the world, effecting step 1. The whole process is a reinforcing learning cycle were steps are intertwined.

By reusing existing activities of Achmea, the process will also better align with the existing process of Achmea. This requirement of the envisioning process is still not fully met, but by placing the decision-making actors explicit in the process we created commitment during the process. Furthermore, the alignment with Agile process is secured, because Agile is only used after strategic planning. Although a better match between the envisioning process and Agile practises can be devised, the current state of the process is not interpreting Agile practises. Agile has a timeframe of a year, so does Strategic planning. Therefore, the envisioning process aligns with Agile processes.

Future orientation

Sensing

Divisions Innovation team | Innovation & Experience centre IT | New Business Developers

Guidelines for sensing and reporting: DEPEST, Trendwatching, user research, etc.

Insights | Insights | Insights

Insights

understanding

Core team Innovation

Process in place to facilitate multidisciplinary sensemaking: Workshop, database, focusgroups

Design challenge

Imagining

Start-ups | Hackathon | Innovation challenge | Student projects

Turing insights in future scenarios (narratives) Design thinking, hackathons, Challenges, etc.

key Performance indicators

Visions | Insights

Insights

value propositions

Adopting

Achmea Holding (Market Strategy)

Adopting new narratives: Discussion, Strategic themes, Strategic planning

key Performance indicators | Strategy plan | Visions | value propositions

Implementing

achmea

Adapting business process: Selection criteria, initiate start-ups, EPICS, etc.

Innovation funnel criteria | Lean start-up hypotheses (value propositions) | EPICS

Appendix H: Excel

Mejia Sarmiento, R., & Simonse. L. (2014). DESIGN OF VISION CONCEPTS TO EXPLORE THE FUTURE: NATURE, CONTEXT AND DESIGN TECHNIQUES.

Rohrbeck, R. (2010). Towards a Maturity Model for Organizational Future Orientation. Academy of Management Proceedings, 2010(1), 1–6. https://doi.org/10.5465/AMBPP. 2010.54493637

En.wikipedia.org. (2017). AIDA (marketing). [online] Available at: https://en.wikipedia.org/wi ki/AIDA_(marketing) [Accessed 10 Oct. 2017].

Voros, D. J. (2001). A Primer on Futures Studies. Prospect, the Foresight Bulletin, (6), 1–7.

		Sensing	Understanding	Imagining	Accepting	Realizing
Management of Technology and Innovation		Sensing	Sensemaking	Specify	Storytelling	Setting up
		The activity of scanning lifestyles in a certain socio-cultural context and of trying to detect as early as possible any potential changes (weak signals) that emerge before collecting all of the information about them.	Sensemaking is the activity of interpreting the trend forecasting data which comes from the SENSING activity, before assigning them withpersonal meanings. Sensemaking process in this case is strongly influenced and filtered by the design paradigm of the designer.	The designer starts to translate the final insights or meanings into the design concepts by selecting and specifying the appropriate product languages and suitable technologies from the relevant databases.	It sillustrates a new meaning that is intended to be delivered through anarrative way , based on the premise that people remember information better.Stories are more relatable and evokean emotional reaction (empathy, sympathy, outrage or laughter) ofthe audience.	The design concepts from previous stage will be further elaborated and detailed into a complete specification ready to use as technical instructions to develop anew prototypye and production or manufacturingplan of a final product.
Product visioning		1. Future exploration: (i) define context factors & to (ii) identify problems, opportunities and risks	2. Vision concept design *creating a narrative and design the concept	3. Vision concept making *making the prototype and the press kit*	4. Exhibition *Showcase the concept using prototypes and the press kit (texts, image, and videos)	4. Exhibition *Workshop with managers using prototypes and the press kit (texts, image, and videos)
		The main goal of this step is to identify - future- problems, opportunities and risks	The main goal of this step is to design the vision concept (the -system of- products and the interaction between the users and the products).	The goal of this step is to make the prototype and the press kit.	The main goal of this step is to showcase the vision concept (the prototype and the press kit) externally in a show and internally through workshop to stimulate the debate.	
		Exploring the domain (i) define context factors (e.g. emerging themes, trends) and to (ii) identify problems, opportunities and risks inherent to these factors.	(i) Narrow down the problem and presents the desired concept vision as a narrative. Based on this, (ii) exploring a series of ideas through prototypes and the, (iii) iterating till refined prototypes.	(i) Making the prototype(s), and (ii) designing and making the press kit, which includes images and a video.	Showcasing the prototypes and the press kit in (i) exhibitions and use them, internally, in (ii) workshop.	
		A future context that includes problems, opportunities and risks	A narrative in a form of a short paragraph and a refined prototype of the -system- of products.	The final prototype(s) and the press kit	The exhibition and report from the workshops.	
		Domain expert, design expert, and the general team	Team sharing within the whole design team	An external company specialized in this kind of activities or by the designers of the team	In-company participation of different organisation units	
Corporate Foresight		Identify	Assess	Convince	Plan	Act
		1) scanning, or data gathering	(2) interpretation, in which data are given meaning	(3a) learning, in which the organization takes action	(3b)The planning step was commented to be comparatively easy and straightforward. Generally, for each emerging change whose relevance has been confirmed by senior management, a response strategy is developed.	(3c)But it was emphasized that the success of this step should not be judged by the quality of the plan but by the execution of the plan. informants provided many examples of plans not being executed because the buy-in of responsible persons has not been secured. Therefore, as in the third step, the success of the fifth step depends on ensuring a high level of participation of stakeholders in the
Marketing Strategy		Attention	Interest	Interest	Desire	Action
		The consumer becomes aware of a category, product or brand (usually through advertising)	The consumer becomes interested by learning about brand benefits & how the brand fits with lifestyle	The consumer becomes interested by learning about brand benefits & how the brand fits with lifestyle	The consumer develops a favorable disposition towards the brand	The consumer forms a purchase intention, shops around, engages in trial or makes a purchase
	Future studies	Inputs.	"Foresight Work"	Outputs	Strategy	
		This is the gathering of information and strategic intelligence. Many methods, techniques and frameworks exist, of which "environmental scanning" is perhaps the best known. The tools and techniques of "competitive intelligence" are also relevant here.	This can be conceived as comprising three broad steps which follow a logical sequence. The first step is Analysis, which is best considered as a preliminary stage to more in- depth work, rather than as a stand-alone technique itself. Forecasting and trend analysis are the best known methods. The results of the analysis are then fed into a second step, Interpretation, which seeks to "probe beneath the surface" of the analysis to look for deeper structure and insights. This is the realm of critical futures studies and causal layered analysis (see earlier), systems thinking, and other "depth" approaches to futures thinking. The third step is the actual creation of forward views. I call this step Prospection (from "pro" = forward, "spect" = look, and "tion" = the noun form of the action; thus, "prospection" is "the activity of looking forward and creating forward views). This is where various views of alternative futures are examined or created. It is where scenario planning, "visioning" and so-called "normative" ("preferred" futures) methods are located in the broader foresight process.	The outputs of foresight work are: the range of options generated by the work (tangible); together with the changes in thinking engendered by the whole process, especially the insights generated in the Interpretation step and by the creation of forward views in the Prospection step (intangible). The intangible output might be somewhat difficult for some hard- headed, "objective" people to appreciate or even recognised. But it is quite possibly the most important output because of the way it alters the very mechanism of strategy development - the perceptions of the mind(s) involved in strategising. At this point, foresight has done its work - the generation of options and (hopefully and more importantly) an expanded perception of strategic options available and possible. Strategy.	The final part in this four-part framework is that of Strategy (both development and planning), about which I will say very little here, given the earlier discussion about the relationship between foresight, strategy and planning. Suffice it is to say that since foresight has done its job, it now hands over its options for consideration by decision-makers in generation decisions and strategic actions for implementation (strategy development and strategic planning). The	
Summary		Scan the entire environment (All environmental areas, all time horizons, multiple sources), Define clear	Use methods with high integration capacity	©	Integrate with follow-up processes and define formal decision-making processes	
		Sensing	Understanding	Imagining	Accepting	Acting
		1. Defining the sensing direction	1. Interpretation of the data	1. Drafting Design brief	1. Interprepe new narrative	1. Plan
		2. Sensing changes: problems, developments, opportunities and risks	2. Draft a narrative from the data	2. Design future scenarios	2. Adopt new reality	2. Act
				3. Enrich narrative with Future scenarios	3. Guide direction	3. Do
					4. Communicate new direction	4. Check

Appendix I: ViP and Context mapping

The Innovation of Meaning process is banking on individuals and a controlled process, but we have established in chapter 4 that digital innovation process is hard to control. Furthermore, it's process is excluding other actors to easy participate. Leveraging digital technology for the benefit of digital innovation is thus limited. Open innovation and network-based innovation are not sufficiently addressed by the proposed process of Prof. Roberto Verganti. Therefore, I needed to search for alternatives approaches for inside-out innovation. I found two different approaches; Vision in Product Design (Hekkert & Dijk, 2011) and Contextmapping (Visser, Stappers, van der Lugt, & Sanders, 2005).

8.6.1. ViP and Contextmapping

My education as a designer has been focussing on building a large toolbox. Especially, two methods/approaches to creating novel product resembling Innovation of Meaning came to mind. Both approaches are aimed at understanding latent needs of people to craft new visions for the future. Both approach partly originate from my own faculty. The first is a called 'Vision in Product Design'(ViP) by Prof. Paul Hekkert and Mathijs van Dijk (2011). The second is 'Contextmapping', described in the book 'Convivial Toolbox' by Prof. Pieter Jan Stappers and Prof. Liz Sanders (2012).

Both approaches have similarity with the Innovation of Meaning approach. Without elaborating to must on both approaches, I try to summarize and related the different approach to the envisioning process.

	Vision in Product Design	Contextmapping (Convivial Toolbox)
	Prof. Paul Hekkert and Prof. Mathijs van Dijk	Froukje Sleeswijk Visser, Prof. Pieter Jan Stappers, Remko van der Lugt & Prof. Elizabeth B-N Sanders
Summary	They call this new approach Vision in Product Design (ViP). ViP is both a method and a design philosophy; it is intended to strike a balance between structuring the process of design, while allowing designers to take a personal position and fully express themselves in producing a product.	'Contextmapping is more than a collection of methods, it is a design research approach with basic principles. People have a hard time looking into the future. By taking them on a journey of what is meaningful for them personally in the present and in the past, they are much more aware of what might matter to them in the future. People are not directly aware of their everyday experiences. With generative techniques, you find out what they know and feel and maybe even dream of.
Underlaying theory	Designer-led process: A process where judgment and responsibility of the designer is leveraged to create novel and creditable products. This is done through research of context factors of the future and crafting a vision about the future.	User-led process: The path of expression is a process that can be used for exploring present, past and future experience. It is a path that guide participants to a generative design research session, culminating their hopes, dreams and fears for the future.

Process		
Relevance towards envisioning process	ViP has a structure process describing steps how to craft a future vision how people should interact with the product that needs to be design. The process involves choosing a domain and timeframe. Searching for context factors within that domain (including trends) and crafting a vision based on the values and judgment of the designers within a team. The process utilizes Developmental criticism, but to a lower extent than Innovation of Meaning. ViP is valuable because of the structure process in combination with tool to craft a vision. The context factor account for factors in both the probable and the plausible future. Furthermore, the process can be initiated on any topic and any time.	Contextmapping is a structure process where deep latent knowledge of people is acquired about what they value about the future. The process is coordinated by a researcher. The first step is to choose a topic and prepare the research. Second, participants are asked to do some assignments regarding the topic. Second, they are participating in a workshop that lets them make artefacts and have discussions. The last step is done by the research to synthesis the findings into results and conclusions. The process does not utilize development criticism until the research results are discussed. Contextmapping is value in the way tools are used to let anyone participate in envisioning the future. Furthermore, the process can be initiated on any topic and any time.
Relevance to digital innovation	Scalable tools and process are present within this approach. They can be utilized in a network setting.	Scalable tools and process are present within this approach. They can be utilized in a network setting.
Barriers	- Heavily use of designers in both structuring the process and judgement of the content. Achmea does not employ many designers. - Furtermore, the process requires large among of time of a select few. - - Implementation in ViP in Achmea may be too much commitment.	- Intensive preparation and analysis. - Visions are only based on the ideas of the participants. - Implementation in ViP in Achmea may be too much commitment.

The main use for these approaches is to adapt their structure and tools for achieving their goals. Two important requirements of my design brief were the utilization of deep user research and open or networked innovation. A combination of these approach may allow for both requirements to be met. The context factors of ViP, in combination with the process and sensitization of Contextmapping, may enable to gathers deeper insights about the future. The context factors are especially useful, because they focus on insights that describe changes in the future and insight that do not. This is helpful in developing a vision about the preferred future, which is both situated in the probably and plausible future. More on this in the chapter about tool, were these elements are reused to create tools supporting the envisioning process.

Appendix J: Tools

See booklet at the end

Type: **Naam:**

Context Factor:

Gebied:

Type: **Naam:**

Context Factor:

Gebied:

Type: **Naam:**

Context Factor:

Gebied:

Type: **Naam:**

Context Factor:

Gebied:

Type: **Naam:**

Context Factor:

Gebied:

Type: **Naam:**

Context Factor:

Gebied:

Cluster naam (werkwoord + zelfstandignaamwoord):

Uitleg
Gebruik deze envelope om contextfactoren te verzamelen die bij elkaar passen; clusteren. Je kunt clusteren op twee manieren: (1) zoek contextfactoren bij elkaar die iets met elkaar gemeen hebben, of (2) zoek context factoren die niet zo veel met elkaar gemeen hebben, maar wel samen interessant zijn. Je kunt beide manieren in één sessie door elkaar heen gebruiken. Stop de contextfactoren in deze envelope en maak hem dicht met een paperclip. Vermijd om veel van dezelfde types of gebeiden bij elkaar te zetten.

Interactievisie

In deze stap worden de clusters omgevormd tot een toekomstige interactievisie, bijvoorbeeld: *In de toekomst willen wij van Achmea dat mensen met persoonsgegevens kunnen omgaan zoals een bankpas.* De interactievisie beschrijft de interactie van de mens met haar context. Kies drie clusters uit die samen een verhaal vertellen. Met andere worden; als je deze clusters bij elkaar zet kun je een voorstelling maken van de toekomstige hinteract met de context. Brainstorm met elkaar eerst een paar mogelijke visies.

Cluster 1

Cluster 2

Cluster 3

Interactievisie 1

Interactievisie 2

Interactievisie 3

Interactievisie 4

Definitieve visie

Interactie visie

Wij, Achmea, willen dat

Interactie visie

Wij, Achmea, willen dat

Interactie visie

Wij, Achmea, willen dat

Interactie visie

Wij, Achmea, willen dat

Interactie visie

Wij, Achmea, willen dat

Interactie visie

Wij, Achmea, willen dat

Future mapping

Uitleg

Plaats de gedefinieerde interactievisies op de verschillende horizons. Een horizon is een vergezicht in de toekomst. Er zijn drie horizons die belangrijk zijn. Probeer je voor te stellen in welke horizon de visie gerealiseerd kan worden.

Mogelijke toekomsten

Day after Tomorrow 3-7 jaar Verkennen

Tomorrow 1-3 jaar Opbouwen

Today 0-1 jaar Versterken

Horizon 1: Korte termijn

Uitbreiden en verdedigen van je huidige business model

Horizon 2: medium-lang termijn

Opbouwen van nieuwe business modellen m.a.w. radicale innovatie en disruptie van huidige business modellen

Horizon 3: Langer termijn

Potentiele opties voor declanger termijn, vinden van nieuwe richtingen voor innovatie

Tijd

Appendix K: Results of workshop

Wij, Achmea, willen dat mensen stabiliteit en zekerheid ervaren doordat Achmea helpt de maatschappij voor te bereiden en de discussie aan te gaan over maatschappelijke ontwrichting en

Technologische casten vorming.

Het feit dat je ergens goed/snel mee kunt werken (mobile) wil niet zeggen dat je snapt hoe het werkt	State	Technologisch
De wereld wordt 'complexer' door digitale technologie	Development	Maatschappij
Alles is kwetsbaar	States	Technologisch

Invloed van Technologie

Hadnwerk is foutgevoelig	Principe	Psychologisch
Internet of Things maakt het mogelijk om dingen met elkaar en de digitale wereld in verbinding te brengen.	Principe	technologie
Technologie is 'The spof'		Maatschappelijk
Door intelligente patroonherkenning worden onbekende verbanden inzichtelijk.	Development	technologie
Niets doen, bestaan we niet meer		
Is dat we zo afhankelijk zijn van digitale 'apparaten', dat we niet meer kunnen overleven zonder	Trend	Maatschappelijk

De maatschappij ontwrichten van Aarbeid

Revolutie op sociaal gebeid door inpact van technologien (bijv. programmeren= auto.=veilig waardoor werk overbodig wordt.)	Trend	Maatschappelijk
Voor (cultuur) verandering is disruptie nodig		Cultureel
Technologie kan ons helpen om thema's rondom duurzaamheid op te lossen	Trend	Maatschappelijk

Wij, Achmea willen dat klanten weten en vertrouwen dat hun data integer is. Dat geeft vertrouwen en zekerheid. Achmea kan checken of jouw data, in jouw beheerd veilig en integer is, door een data check en blockchain opslag. Je data moet te vertrouwen zijn voor andere mensen om je te identificeren. Identiteitsfraude kan te gemakkelijk.

Digitaal egotrippen

Mensen hebben weinig aandacht voor aken die hen indirect raakt	Principe	Psychologisch
Mensen willen niet in hun eigen waarde worden aangetast	Principe	Psychologisch
Mensen hebben altijd een eigen identiteit nodig (ego)	Principe	Sociologisch

Data Democratie

Bij de blockchain kan haast geen 'down time' zijn	State	Technologie
Elke partij de is aangesloten op de blockchain heeft dezelfde informatie tot zijn beschikking	Principe	Technologie
Data in een blockchain is niet aan te passen zonder dat dit voor iedereen zichtbaar is	Principe	Technologie
We werken met gevalideerde digitale identiteit waarbij we zelf bepalen wie, wat mag gebruiken	Development	T
Klanten krijgen besef van de waarde van data. Klant wil zelf bepalen aan wie data gegeven wordt, klant is eigendom	Trend	

Digitale Neathertalers

Mensen kunnen/mogen blind vertrouwen op veiligheid van appratuur/IoT, omdat het bij bedrijven wordt afgedwongen	Trend	
Mensen zijn Naife, verwachten van bedrijven dat gegevens veilig zijn, maar gaan zelf niet goed mee om, kritisch	State	
Mensen gaan uit van het goede	Principe	Psychologisch
Mensen zijn behulpzaam	Principe	Psychologisch

Appendix L: Vision workshop

Positioning statements

Frank: Innovatie is heeft als doel om het gedrag en het gebruik van informatie en technologie van klanten, partners en medewerkers van Achmea te vernieuwen én versnellen. Innovaties zijn gericht om de Achmea Strategie ontwikkelen én gericht om waarde (value) te creëren. Voorwaarden hiervoor zijn Leiderschap, Heldere strategie, Open Mindset, verrouwen krijgen en nemen, intrinsieke motivatie van medewerkers, tijd & geld, feedback van de klant, een diverse multidisciplinair team, flexibele organisatie vorm en samenwerkingspartners.

Marijn: Wij bieden bestaansrecht voor Achmea in de toekomst door technologische vernieuwing voor Achmea mogelijk te maken en door te voeren.

Brian: I&EC biedt Achmea een betere voorbereiding op de impact van nieuwe technologische ontwikkelingen dan elk ander innovatieteam binnen Achmea. We doen dit door de ontwikkelingen in de techniek actief bij te houden waarbij we ons niet afhankelijk maken van externe experts, door toonaangevende ideeën voor te stellen, te bespreken en te beproeven in samenwerking met onze collega's in de business en door onze kennis en ervaring over te dragen aan zoveel mogelijk collega's binnen Achmea.

Manuella: 'Het Innovatie @ Experience center maakt van Achmea de "Inspraak Verzekeraar", doordat zij klanten, medewerkers en externe partijen bij elkaar brengen in het Experience Center, samen met de klant uitvoerbare concepten bedenken, om deze vervolgens om te zetten in werkelijkheid'.

Paul: Innovatie zorgt ervoor dat Achmea in staat is om uitstekende verzekeringsproposities en uitmuntende services tegen concurrerende kosten aan te bieden aan klanten, aandeelhouders en de maatschappij. Achmea loopt hierin voorop binnen de financiële dienstverlening. Dit doen we door een sterke focus op de klanten, slimme inzet van (nieuwe) technologie, en een cultuur van continue verbetering en samenwerking.

Leroy: Het open innovation coach stimuleert radicale innovatie onder medewerkers, door hen te begeleiden in het vinden van nieuwe waarde proposities. Dit kunnen wij doen door jou te inspireren met toekomstvisies, door je te laten verdiepen in jouw eigen kernwaarden en jou te onderwijzen van de mogelijkheden van technologie.

Thijs: 'Achmea IT brengt technologische en #socialinnovation naar de werkvloer, door visievorming, doorvertaling en experience. Hierdoor geven wij richting, creëren wij draagvlak en verhogen wij betrokkenheid van Achmea collega's. Dit resulteert in verhoging van de productiviteit, motivatie en business adoptie.'

Results Why, How, What:

Why? I &EC

observaties / interventies

A   nu geen/weinig tijd
voor R&D achtig onderz.
kwaliteit interess artik & II

B   Achmea 2020 nu een
vraag RvB. Zou structureel
moeten zijn.
met EA & EIM? of andere groep?

C   GAP rondom toekomst
terug vertalen naar plateau's

D   veel beweging op   nu → toekomst
maar bewegen niet van toek → nu

E   Krachten individu verdelen
naar categorie

Impact   Technologisch innovatie

Voorbeelden
1. richtinggeven
2. inspiratie
3. bijeenroepen
4. leren
5. verbinden

a. Toekomst visie
b. plateau uitwerkingen
2. Markt onderzoek
3. trendrapport / piloting / exp.

4. empowerment
5. idee generatie

people
proces
technology

mw
klant
partners
*Things

initialiseren

Hoe

Innovation output of
I&EC 2017

Extern
Market development (Business context)

Scouting interesting
developments

Envision Future state
of IT infrastructure
Future

Creating Whitepaper

Achmea 2030

Trend report
Ad-hoc Questions Mgt.

Innovation and
Experience centre IT

EA Roadmap

Intern
Organisation influence

Investigated initiatives
Ideabus
Advice IB
Today
Idea generation and
experimentation

Groep BIP

Drafting working process and policy
Drafting education plans

Workfloor

Innovision
Innovation TV
Events, demo's

Appendix M: Achmea 2030 visie
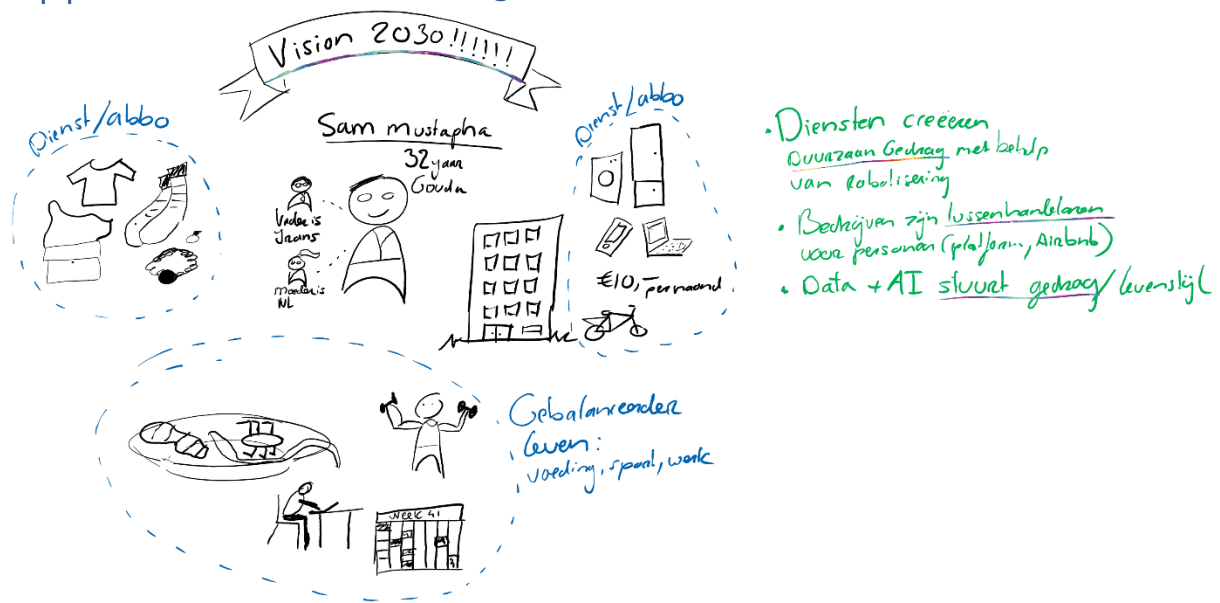
Toekomstvisie Achmea 2030

In de toekomst zal Duurzaamheid, Gezondheid en Veiligheid voor het individu en de samenleving 'verzekerd' worden door gedrag van mensen te sturen en stimuleren.

Achmea draagt hier aan bij door diensten (verzekeren is een dienst) te leveren aan consumenten en partners mogelijk gemaakt door de digitalisering.

Technologiën zoals AI, social platforms, Blockchain en Data analyse stellen Achmea in staat slimme diensten te ontwikkelen die veilig, gezond en duurzaam leven gemakkelijker maakt. **Gemak dient de mens**!

Een dag uit het leven van 'Sam' in 2030

Customer Journey

Sam heeft een afspraak met Ton in de auto

Sam kan buiten werken

Sam heeft een afspraak met het team

Sam gaat sporten

Sam rijd terug naar huis en krijgt zijn boodschappen in de auto

Sam eet samen met zijn vrouw

Technological backbone (Service blueprint)

De zelfrijdende auto service legt agenda's over elkaar heen om afspraken mogelijk te maken tussen medewerkers die dezelfde kant op moeten

Afspraken met collega's worden automatisch gepland

Sam vind de boodschapen van die dag in de auto die hem terug naar huis brengt

Een groot aantal mensen willen samenkomen, op basis van agenda's en verblijfplek wordt een locatie gekozen en vervoer geregeld

Mogelijke implicaties voor verzekeraars

- **Zelfrijdende auto** brengt discussie over schuldvraag voor verkeersongevallen
- **Inbraak preventiemiddelen** thuis voorkomen schades en als er toch inbraak gebeurt, partners (politie) automatisch inschakelen
- **Mensen leven gezonder en langer** betekent hogere zorgkosten (zorgverzekeraar) en vraagt om meer kapitaal (pensioen)
- **Zelf organisatie van de burger** (participatie samenleving) betekent een andere houding van de verzekeraars naar de klant. Niet aanbieder, maar partner in verzekeren en preventie

---

Scenario: Tiener gooit ruit in als Sam van huis is

Onze partners bouwen op onze kennis, efficiëntie en transparantie in 2030

Toezichthouders hebben gemakkelijk toegang tot onze data

Een tiener gooit een ruit in om 10:00

Sensor van Nest registreert de schade

Melding wordt gemaakt door de sensor bij FBTO

Klusjes man wordt ingeschakeld, en krijgt toegang tot het huis via Interpolis en veiligheidssysteem

Eigen risico wordt verrekend

Partners leren van data door leesbare systemen

Achmea IT

Appendix N: Trend rapport release

TEKST ANALYSE
Het voor computers begrijpelijk maken van menselijke taal om onderwerp, sentiment en zinsopbouw te achterhalen.

MACHINE INTELLIGENCE

ROBOTISERING PROCES
Repetitieve onderdelen van processen automatiseren (STP)

MACHINE INTELLIGENCE

BEELD ANALYSE
Het analyseren van beeldmateriaal om informatie te achterhalen op basis van patroonherkenning.

MACHINE INTELLIGENCE

VOORSPELLENDE ANALYSE
Het analyseren van enorme hoeveelheden data om voorspellingen te kunnen doen

MACHINE INTELLIGENCE

ONBEKENDE VERBANDEN
Door intelligente patroonherkenning worden onbekende verbanden inzichtelijk.

MACHINE INTELLIGENCE

GOEDKOOP
Het meten van (bijna) alles is door Internet of Things vele malen goedkoper dan voorheen.

INTERNET OF THINGS

VOORSCHRIJVENDE SYSTEMEN
Adviezen en acties kunnen worden geautomatiseerd op basis van bedrijfsregels.

MACHINE INTELLIGENCE

SPRAAKHERKENNING
gebruikers-interfaces worden steeds meer onzichtbaar en spraak gestuurd, spraak kan hiermee automatisch omgezet worden in tekst.

MACHINE INTELLIGENCE

PERSOONLIJK
Klanten kunnen ervoor kiezen om hun gedrag met ons te delen, terwijl ze hier minder voor hoeven te doen.

INTERNET OF THINGS

DIRECT INZICHT

Door real time metingen wordt direct inzicht verkregen in de status.

INTERNET OF THINGS

NIEUW KANAAL

Door slimme apparaten kan Achmea via 'dingen' (zoals een auto, koelkast of thermostaat) contact hebben met klanten.

INTERNET OF THINGS

ONWIJZIGBAAR

Data in een blockchain is niet aan te passen zonder dat dit voor iedereen zichtbaar is.

BLOCKCHAIN

KLEIN

Meet apparatuur is (bijna) overal te plaatsen, vanwege het kleine formaat.

INTERNET OF THINGS

DECENTRAAL

De blockchain is een decentrale database. Het is daarmee minder gevoelig voor hacks dan een centrale database.

BLOCKCHAIN

GEDEELD

Het eigenaarschap van een blockchain ligt per definitie niet bij één partij. Transacties moeten door meerdere partijen goedgekeurd.

BLOCKCHAIN

VERBINDING

Internet of Things maakt het mogelijk om dingen met elkaar en de digitale wereld in verbinding te brengen.

INTERNET OF THINGS

GEDISTRIBUEERD

Een blockchain staat doorgaans op verschillende servers. Als er een uitvalt, blijft de rest het doen.

BLOCKCHAIN

HERLEIDBAAR

Alle transacties in een blockchain zijn terug te herleiden naar de eerste transactie. Er is altijd duidelijkheid over de historie van een transactie.

BLOCKCHAIN

TRANSPARANT

Blockchains kunnen zo worden geconfigureerd dat alle transacties zichtbaar zijn voor alle partijen.

BLOCKCHAIN

ONWEERLEGBARE AFSPRAKEN

Blockchain maakt het mogelijk om afspraken te programmeren die met zekerheid uitgevoerd worden ("als voldaan aan voorwaarde X, doe Y")

BLOCKCHAIN

BETROUWBAAR

Onderliggende cryptologie maakt afspraken of de inhoud van databases onweerlegbaar, zonder dat daarvoor een tussenpersoon nodig is.

BLOCKCHAIN

Appendix N: Maturity model survey

Toekomst orientatie Achmea: Future Forecasting, Technical Analysis and Scenario planning

Hi,

Het afgelopen half jaar heb ik onderzoek gedaan naar het innovatie proces binnen Achmea. Hieruit kwam de aanbeveling om te kijken naar het process voor de idee generatie. Deze stap helpt met het bepalen waar Achmea heen wil, wat voor soort ideeën Achmea moet achterna jagen en waar Achmea meer aandacht aan zou kunnen besteden.

Met deze vragelijst probeer ik inzichtelijk te krijgen hoe goed Achmea er voor staat op het gebied van Toekomst orientatie voor het strategic planning en innovatie. Het gaat hierom het vermogen van Achmea om verandering in haar omgeving te kunnen waarnemen en daar op te kunnen acteren, om zo mogelijk nieuwe kansen te pakken en competitief te blijven in de markt.

Deze vragenlijst is gebaseerd op een Maturity Model voor Organizational Future Orientation. Ik heb een concept ontwikkeld waarin verschillende bestaande activiteiten en nieuwe activiteiten van Achmea worden gecombineerd om meer gevoel voor de toekomst te krijgen.

De uitkomsten van deze vragenlijst gebruik ik als maatstaf voor de huidige status van toekomst orientatie binnen Achmea. Deze maatstaf gebruik ik om mijn concept aan te toetsen. De vragenlijst zelf is in het engels.

Toekomst orientatie Achmea: Future Forecasting, Technical Analysis and Scenario planning

Information usage & Data collection

Information usage describes the information which is collected about for Future orientation/Foresight (Trends, user needs, Technological developments)

Reach *

○ Level 1: Scanning only in current business

○ Level 2: Scanning in current business and areas of interest

○ Level 3: Scanning in current and adjacent business

○ Level 4: Scanning in current business and adjacent business and in white spaces

Appendix O: Organisation overview of Achmea in the area of NPD
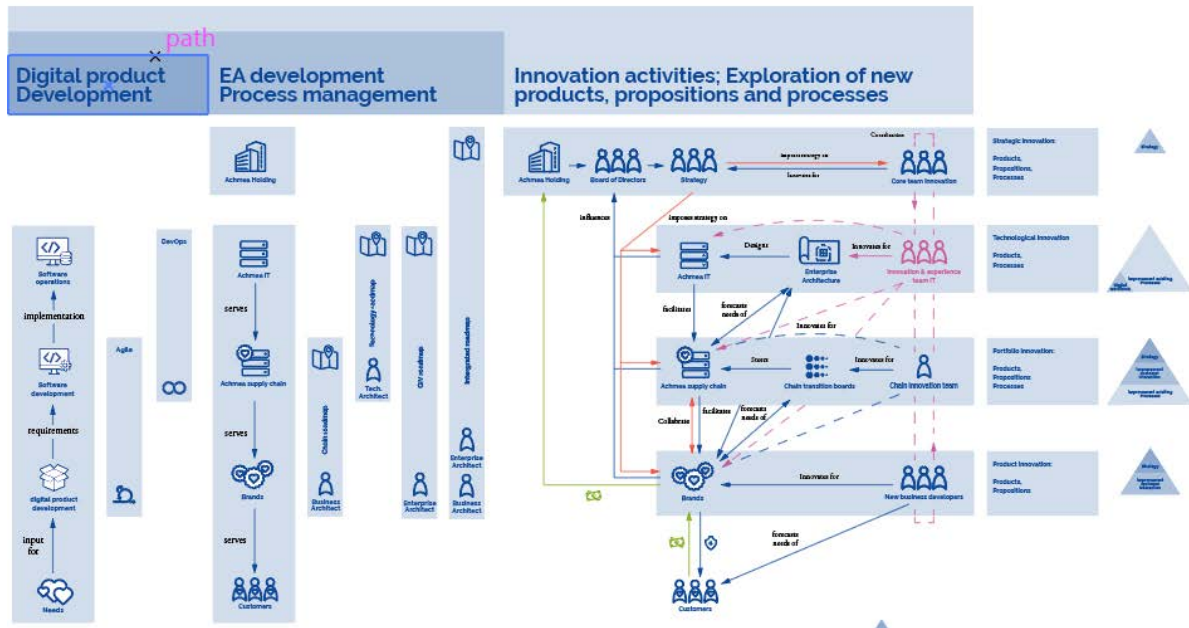
Appendix O: Booklet

Achmea visie ontwikkeling Privacy en Security

I&EC

Hi Deelnemer!

Leuk dat je wil meedoen aan deze workshop. Ik ben een designstudent aan de Technische Universiteit Delft. Ik focus mij op strategische productontwikkeling. Deze workshop is een pilot voor mijn afstuderen.

Tijdens deze workshop gaan wij een mogelijk toekomstbeeld neerzetten voor Achmea over Veiligheid. Met dit toekomst beeld zijn wij als medewerkers van Achmea beter instaat om ons voor te stellen hoe ontwikkelingen uitwerking kunnen gaan hebben op de dagelijks gang van zaken bij medewerkers, klanten en partners. Ontwikkelingen kunnen zijn op sociaal vlak, maar ook op economisch, politiek, technologisch, enz.

Om een toekomstbeeld te schetsen hebben wij inzichten nodig over hoe de toekomst er mogelijk uit komt te zien. Deze inzichten gaan niet alleen over veranderingen, maar juist ook over de zaken die hetzelfde blijven. Zoals dat je altijd behoefte zal hebben aan een genegenheid, dat mensen nachtrust nodig hebben of dat mensen het niet leuk vinden om simpele taken vaak uit te voeren.
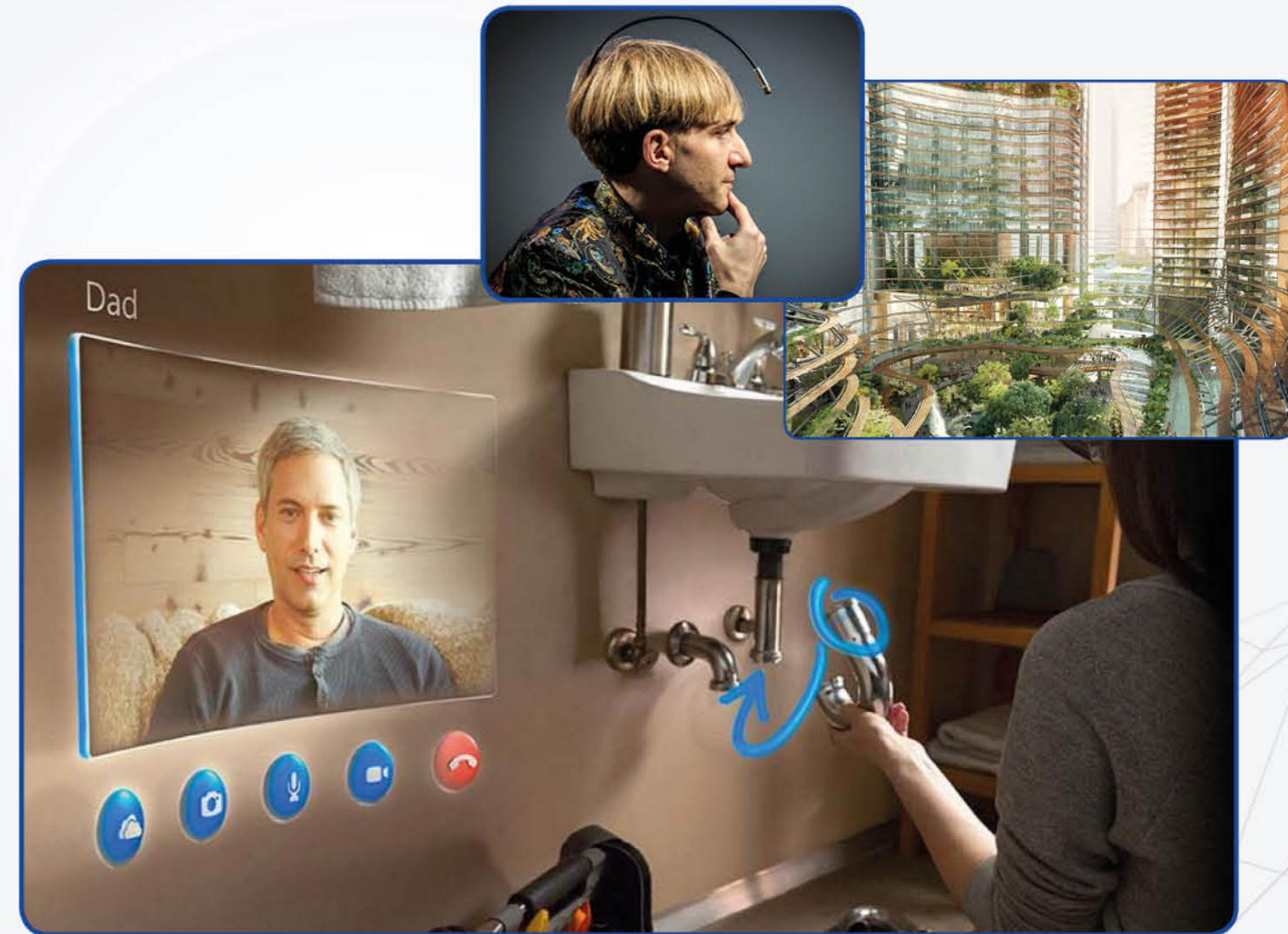
Middels dit boekje wil ik je laten nadenken over het onderwerp veiligheid van digitale gegevens en data. Dit boekje bevat voor elke dag een opdracht van ongeveer 15 minuten. In dit boekje zitten vijf opdrachten. Elke opdracht resulteert in een aantal inzichten in de toekomst, zo genoemde 'Context factors'.

Het is belangrijk dat je elke dag een opdracht uitvoert. De kracht van deze aanpak is dat je er gedurende langer tijd over het onderwerp na denkt. Mocht je vragen hebben dan kan je mij mailen of bellen: 0646347486 & leroy. huikeshoven@achmea.nl.

Succes en tot bij de workshop! Vergeet je boekje niet mee te nemen naar de workshop!

Leroy

Dag 1: Ik en mijn data

Vandaag gaat over jou, welke apparaten jij bezit en op welke apparaten allemaal gegevens staan.

Stap 1:

Mijn naam is . . . .

Ik ben werkzaam bij . . . . als . . . .

Stap 2:

Teken, schrijf, schets hiernaast alle apparaten die jij bezit waar persoonlijke gegevens van jou staan opgeslagen.
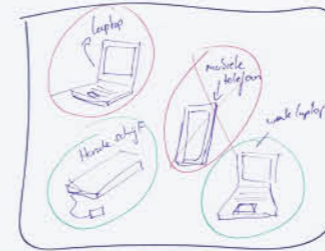
Stap 3:

Omcirkel met groen welke apparaten je veilig vindt, en met rood welke je onveilig vindt.

Stap 4:

Welke apparaten heb je liever helemaal geen persoonlijke gevens op staan?
Zet daar een rood kruis door heen.

Voorbeeld

Dag 1 Context Factoren: Trends

Om een idee van de toekomst te krijgen moet je weten wat er belangrijk is voor de toekomstige context. Om dat idee te krijgen zou je bijvoorbeeld een trendanalyse kunnen doen. Trends zijn context factors. Naast trends bestaan er ook States, Principles en Developments. Deze komen allemaal aanbod, maar we starten met de meest bekende, trends.

Trends

Trends zijn verandering in de tijd op korte termijn. Trends kunnen een aantal maanden zijn of een aantal jaar, maar nooit veel langer. Trends beschrijven een situatie, denkbeeld, object, etc. dat veel aandacht krijgt en er uitspringt. Trends kunnen met de tijd ook weer verdwijnen.

Bijvoorbeeld: Het eten van minder vlees wordt steeds populairder onder de Nederlandse bevolking. Of consumenten hebben meer behoefte aan transparantie van bedrijven die gebruik maken van hun gegevens. Of steeds meer mensen kiezen voor het vliegtuig tijdens hun vakantie.

Trends hebben vaak een waarde oordeel. Trends kunnen sociologisch, cultureel, technologisch, demografisch, etc. van aard zijn.

Opdracht

Noteer hiernaast drie trends die relevant zijn voor het thema Veiligheid in de toekomst. Formulier de trend zo objectief mogelijk. Een bron is niet nodig, de trends is waar als de meeste mensen het erkennen. Laat je inspireren door bijvoorbeeld de opdracht hiervoor, via internet of via kennissen en famillie.

Trends

Een trend is dat mensen . . . .

Trends

. . . .

Trends

. . . .

Dag 2: Tijdlijn van mijn dag

Vandaag gaat over jouw gemiddelde dag. Hoe ziet jouw dag eruit? Wat doe je allemaal?

Stap 1:

Teken, schrijf of schets op de tijdlijn hoe jouw dag er uit ziet, met name de momenten waarop jij bezig bent met je persoonlijke gegevens of gevens van Achmea.

Voorbeeld

Stap 2:

Kies twee momenten die jij als positief ervaart, plak hier een groene sticker bij. Doe hetzelfde voor de momenten uit die jou als negatief ervaart, plak hier een rode sticker bij.

Stap 3:

Kies een positief moment uit. Ik ervaar dit als positief, omdat . . . .

. . . .

Kies een negatief moment uit. Ik ervaar dit als negatief, omdat . . . .

. . . .

Dag 2 Context Factoren: States

Op dag 1 hebben wij kennis gemaakt met Trends. Trends zijn context factors. Naast trends bestaan er ook States, principles en developments. Vandaag behandelen we States.

States

States zijn condities van een object, situaties of persoon die nagenoeg niet veranderen door de tijd heen.

Bijvoorbeeld: Ouders zullen hun kinderen beschermen tegen gevaar, het overgrote deel van de mensen nemen de auto naar hun werk of mensen zijn sceptisch over dat verzekeraars het beste met hun voor hebben.

States kunnen sociologisch, cultureel, technologisch, demografisch, etc. van aard zijn. States kunnen veranderen, maar dat gebeurt niet snel. Je kan aannemen dat ze constant blijven door de tijd heen.

Opdracht

Noteer hiernaast drie States die relevant zijn voor het thema Veiligheid in de toekomst. Formulier de State zo objectief mogelijk. Een bron is niet nodig, de State is waar als de meeste mensen het erkennen. Laat je inspireren door bijvoorbeeld de opdracht hiervoor, via internet of via kennissen en famillie.

States

Mensen hebben behoefte aan . . . .

States

Mensen zijn . . . .

States

. . . .

Dag 3: Mijn vroegere zelf

Vandaag hebben we het over grotere veranderingen. We gaan het hebben over veiligheid toen jij 20 jaar oud was en veiligheid nu.

Stap 1:

Denk terug aan het jaar dat jij 20 was? Wat waren toen de zorgen over veiligheid? Wat was er toen op het nieuws? Teken, schrijf of schets het op de 20-jarige versie van jou zelf hiernaast.

voorbeeld

Toen ik 20 was

Toen ik 20 was
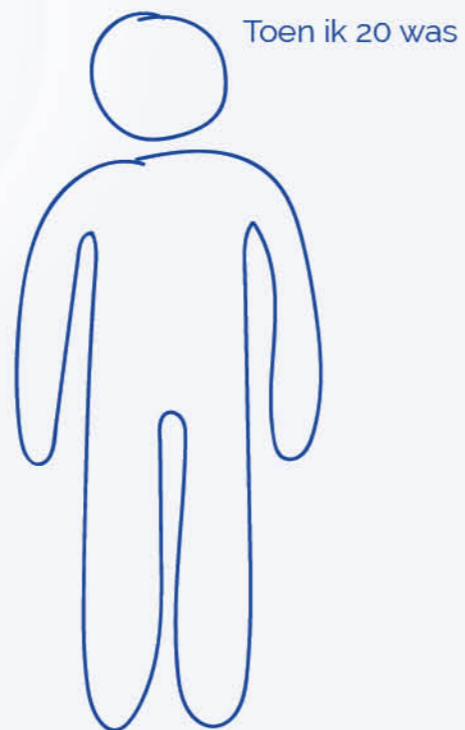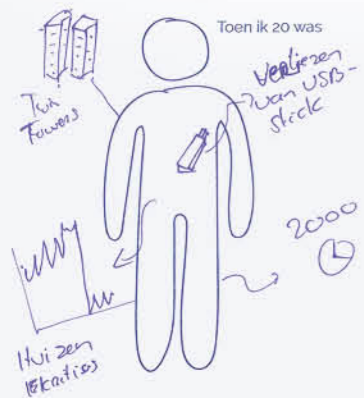
Stap 2:

Denk nu aan vandaag en welke veiligheid kwesties er nu spelen? Waar maak jij je nu zorgen over? Zijn dat dezelfde als toen je 20 was of zijn die veranderd?

Ik van vandaag
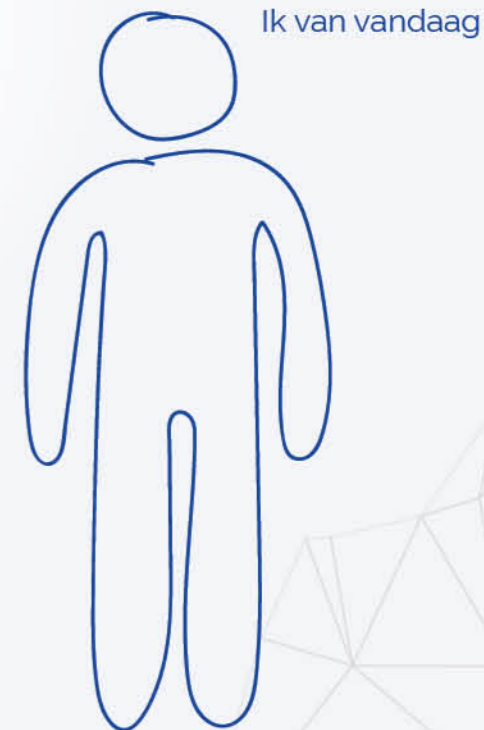
Dag 3 Context Factoren: Developments

Vandaag maken we kennis met developments (ontwikkelingen). Ook developments zijn context factoren.

Developments

Developments lijken veel op trends, maar dit gaat over een langere periode. Developments zijn gestart in het verleden en moeten nog tot volledige uiting komen in de toekomst. Zij hebben, in tegen stelling tot trends, blijven de impact op de toekomst. Developments zijn vaak minder onderheven aan een waarde oordeel.

Bijvoorbeeld: China is in opkomst als wereldmacht. Of door artifical intellegence worden auto steeds meer zelfrijdend. Of de temperatuur van de aarde blijft stijgen, waardoor het weer steeds heftiger wordt.

Developments zijn vaak te vinden in meer onderlegde bronnen.

Opdracht

Noteer hiernaast drie Developments die relevant zijn voor het thema Veiligheid in de toekomst. Formulier de Developments zo objectief mogelijk. Een bron is niet nodig, de Development is waar als de meeste mensen het erkennen. Laat je inspireren door bijvoorbeeld de opdracht hiervoor, via internet of via kennissen en

Developments
. . . .

Developments
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Developments
. . . .

Dag 4: Mijn eigen veiligheid

Op dag vier gaan we het hebben over jouw eigen veiligheid. Hoe bescherm jij jou gegevens?

Stap 1:

Kies een apparaat van dag 1 die jij niet veilig vindt. Teken, schrijf of schets het apparaat in de binnenste cirkel

Stap 2:

Noteer in de middelste cirkel alle elementen die jij niet veilig vindt van het apparaat.

Stap 3:

Denk extra na over welke element door jou zelf zijn veroorzaakt. bv: een zwak wachtwoord op je mobiel of Wi-Fi staat altijd aan ook als je niet op een netwerk zit.
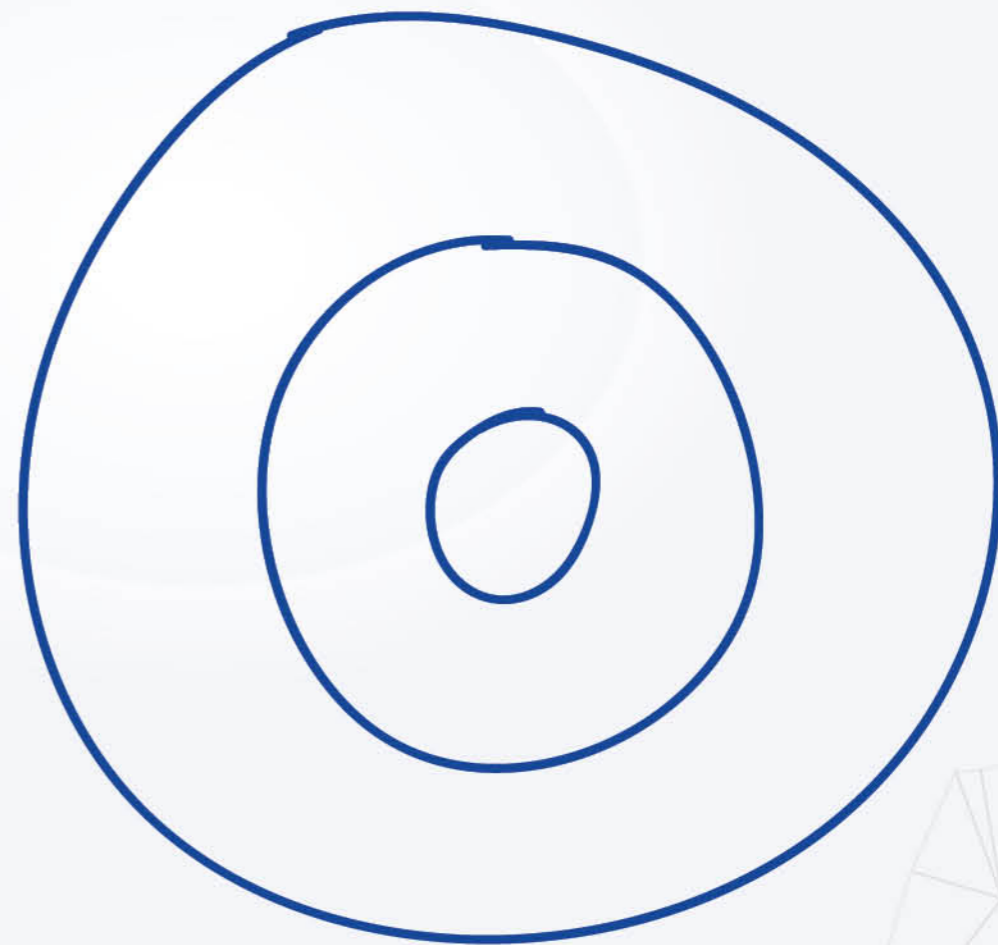
Stap 4:

Noteer in de buitenste cirkel met groen hoe je omgaat met deze onveiligheden.

Stap 5:

Noteer in de buitenste cirkel met rood ook waarom je niet iets doet tegen onveiligheden.

Voorbeeld

Dag 4 Context Factoren: Principles

De laatste context factoren zijn principles. We hebben tot nu toe trends, states en developments behandeld. Principles zijn er eindeloos, maar we zijn op zoek naar relevante principles op het gebied van veiligheid

Principles

Principes gaan over factoren die stabiel zijn op lange termijn. Ze lijken schijnbaar onveranderlijk. Het zijn bijna regels over ons gedrags, over de natuur, over de samenleving. Principles beschrijven een phenomeen dat inhet verleden zo was en in de toekomst ook zo zal zijn.

Bijvoorbeeld: Mensen zijn snel afgeleid. Of interfaces moeten begrijpelijk zijn anders haken mensen af. Of het doen van berekeningen kost energie. Of mensen zijn gemotiveerd om iets te doen als ze zelf de controle hebben.

Principles zijn overal. Vaak in vorm van vuistregels.

Opdracht

Noteer hiernaast drie Principles die relevant zijn voor het thema Veiligheid in de toekomst. Formulier de Principles zo objectief mogelijk. Een bron is niet nodig, de Principle is waar als de meeste mensen het erkennen. Laat je inspireren door bijvoorbeeld de opdracht hiervoor, via internet of via kennissen en famillie.

Principles
. . . .

Principles
. . . .

Principles
. . . .

Dag 5: Ik en mijn context factoren

Dit is de laatste dag. Afgelopen dagen heb je kennis gemaakt met vier verschillende context factoren. En je hebt nagedacht over veiligheid.

De context factoren die je hebt opgeschreven worden gebruikt in de workshop. Neem je boekje dus mee naar de workshop. Vandaag heb je de kans om terug te gaan naar de verschillende context factoren.

Stap 1:

Ga terug naar je context factoren van afgelopen 4 dagen. Zijn de context factoren correct? Moet het niet een trend zijn, of een state? Soms is het heel subjectief wat voor soort factor het moet zijn, dat geeft niet. We zullen in de workshop hier ook meer aandacht aan geven.

Stap 2:

We hebben niet alleen context factoren nodig die te maken hebben met veiligheid, dit maakt de nieuwe visie te gefocest op veiligheid en hoe meer context factoren hoe beter voor het proces. We kunnen ons dan beter een toekomst visie voorstellen, en misschien zelfs meerdere maken.

Bedenk nog mistens 6 andere factoren die **niets** te maken hebben met veiligheid. En noteer ze hiernaast. Je mag gebruik maken van internet, verslagen, etc.

Super bedankt!

Leuk dat je hebt meegedaan!

Wat gaan met al die context factoren doen? Tijdens de workshop zullen we in duos nog eenmaal de context factoren doorlopen. Daarna printen we ze opnieuw uit en gaan we proberen een samenhangend verhaal te maken van verschillende factoren.

Dit proces is vaag, subjectief en intensief, maar heel leuk! Aan het einde van de workshop hebben we 2 of 3 visies op hoe veilighied in de toekomst een andere betekenis zal krijgen voor mensen. Achmea kan daar vervolgens mooi op inspelen.

De workshop zal ik voorbereiden! Mocht je vragen hebben dan kan je mij mailen of bellen: 0646347486 & leroy.huikeshoven@achmea.nl.

Tot bij de workshop, vergeet je boekje niet!

Leroy